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NOV 17 2005

Scientific and Technical Information Center

SEARCH REQUEST FORM

TECH/CHEM. DIVISION
(STIC)Requester's Full Name: Robert (Robert) Shinn Examiner #: 79521 Date: 11/19/05
Art Unit: 1626 Phone Number: 20707 Serial Number: 10/135,492
Location (Bldg/Room#): REM (Mailbox #): 5A70 Results Format Preferred (circle): PAPER DISK*****
To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:Title of Invention: Process for making aliphatic oligocarbonate
Inventors (please provide full names): Tillack et al

Earliest Priority Date: _____

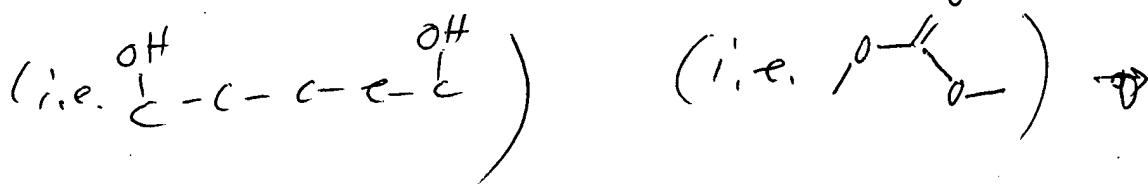
Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

2. Search a process for making
aliphatic oligocarbonate diol by
(see claim)

aliphatic diol + dimethyl carbonate \rightarrow product.

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NOV 17 2005

MEJ



STIC Search Report

EIC 1700

STIC Database Tracking Number: 10/735492

TO: Rei-Tsang Shiao
Location: rem/5A10/5C18
Art Unit : 1626
December 8, 2005

Case Serial Number: 10/735492

From: Usha Shrestha
Location: EIC 1700
REMSEN 4B28
Phone: 571/272-3519
usha.shrestha@uspto.gov

Search Notes

Examiner Shiao,

The polymers are indexed in CAS Registry file as monomers. Since the applicant compound is indexed as a polymer, aliphatic diol and dimethyl carbonate as two different monomers. I used those two monomers to do this search. If you have any questions please let me know. Thanks.



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

➤ *I am an examiner in Workgroup:* Example: 1713
➤ *Relevant prior art found, search results used as follows:*

- 102 rejection
- 103 rejection
- Cited as being of interest.
- Helped examiner better understand the invention.
- Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- Foreign Patent(s)
- Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ *Relevant prior art not found:*

- Results verified the lack of relevant prior art (helped determine patentability).
- Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

WHAT IS CLAIMED IS:

1. A process for producing an aliphatic oligocarbonate diol comprising
 - a) reacting an aliphatic diol with dimethyl carbonate (DMC), in a transesterification, at an elevated pressure in a reaction mixture,
 - b) removing methanol and unreacted dimethyl carbonate at a pressure of from 1 bar to the pressure in a), and
 - c) after the reaction of the aliphatic diol and DMC is complete, removing any remaining methanol and any unreacted dimethyl carbonate at a pressure of less than 1 bar, optionally assisted by addition of an inert gas.
2. The process of Claim 1 further comprising adding a catalyst in a).
- 15 3. The process of Claim 1, wherein a) further comprises adding the DMC to the diols in a reaction vessel after the reactor is heated and the pressure is applied.
4. The process of Claim 3, wherein in a) DMC is added slowly at first
20 into the reactor, and later the rate of addition is increased to such an extent that a DMC/methanol azeotrope is distilled off in b).
- 25 5. The process of Claim 1 comprising adding DMC rapidly in one step in a).
6. The process according to Claim 1 comprising adding up to 100 % of the required amount of DMC to the diol, heating the reactor, applying the pressure, refluxing all the distillate to the reactor until a defined or constant DMC content is obtained in the distillate, distilling off the DMC/methanol
30 mixture and adding the DMC that is lacking compared to the required amount.

7. The process of Claim 1 wherein the elevated pressure in a) is between 1.5 and 100 bar and the temperature is between 100 to 300°C.
8. The process of Claim 7 wherein step b) is performed at a 5 temperature from 160°C to 250°C and at a pressure from 1 to 99 bar.
9. The process of Claim 8 wherein step c) is performed at a temperature from 160°C to 250°C and at a pressure from 1 to 999 mbar.
- 10 10. The process of Claim 1 comprising introducing the inert gas as bubbles into the reaction mixture.
11. The process of Claim 1 wherein the inert gas is selected from the group consisting of nitrogen, noble gases, methane, ethane, propane, 15 butane, dimethyl ethers, dry natural gas and dry hydrogen.
12. The process of Claim 1 wherein the inert gas is prepared from a low-boiling liquid selected from the group consisting of pentane, cyclopentane, hexane, cyclohexane, petroleum ether, diethyl ether and 20 methyl tert-butyl ether.
13. The process of Claim 1 comprising removing methanol and unreacted dimethyl carbonate in a gas stream and partially recycling the gas stream to the oligocarbonate.
- 25 14. The process of Claim 1 where the total amount of DMC is the sum of the theoretical amount of DMC to be reacted with the aliphatic diol plus the amount of DMC distilled off during the planned reaction time.
- 30 15. The process of Claim 1 further comprising d) modification of the molecular weight of the aliphatic oligocarbonate by adding more diol components followed by another transesterification reaction.

16. The process of Claim 1 wherein the aliphatic diol comprises 3 to 20 C atoms.
17. The process of Claim 1 wherein the aliphatic diol comprises an aliphatic ester diol.
18. The process of Claim 17 wherein the aliphatic ester diol comprises an addition product of a diol with a lactone.
- 10 19. The process of Claim 18 wherein the lactone is caprolactone or valerolactone.
20. The process of Claim 17 wherein the aliphatic ester diol comprises a condensation product of a diol with a dicarboxylic acid.
- 15 21. The process of Claim 20 wherein the dicarboxylic acid is adipic acid, glutaric acid, succinic acid, or malonic acid.
22. The process of Claim 1 wherein the aliphatic diol comprises a polyether polyol.
- 20 23. The process of Claim 1 wherein the aliphatic diol is polyethylene glycol, polypropylene glycol or polybutylene glycol.
- 25 24. The process of Claim 1 wherein the aliphatic diol is 1,6-hexanediol, 1,5-pentanediol and/or mixtures of 1,6-hexanediol and caprolactone.
25. The process of Claim 17 wherein the aliphatic ester diol is formed in situ during the production of the aliphatic oligocarbonate diol.
- 30 26. The process of Claim 1, wherein the molar ratio of diol to DMC in the reaction mixture ranges between 1.01 and 2.0.

27. The process of Claim 2 wherein the catalyst is a soluble transesterification catalyst.
28. The process of Claim 27 wherein the soluble transesterification catalyst is used in concentrations up to 1000 ppm.
29. The process of Claim 2 wherein the catalyst is an insoluble transesterification catalyst.

The oligocarbonate diols which are produced by the process according to the invention can be used, for example, for the production of plastics polymers, fibres, coatings, lacquers and adhesives, e.g. by reaction with isocyanates, or for the production of epoxides, (cyclic) esters, 5 acids or acid anhydrides. They can be used as binder vehicles, binder vehicle constituents and/or as reactive thinners in polyurethane coatings. They are suitable as components of moisture-hardening coatings, or as binder vehicles or binder vehicle constituents in solvent-containing or aqueous polyurethane coatings. They can also be used as building blocks 10 for the synthesis of polyurethane prepolymers which contain free NCO groups, or in polyurethane dispersions.

The oligocarbonate diols which are produced by the process according to the invention can also be used for the production of synthetic thermoplastic materials such as aliphatic and/or aromatic polycarbonates, 15 thermoplastic polyurethanes, etc.

The invention is further illustrated but is not intended to be limited by the following examples in which all parts and percentages are by weight unless otherwise specified.

20

EXAMPLES

Examples 1-6 according to the invention are examples of some synthesis of oligocarbonate diols with an OH number of 53-58 mg KOH/g and a residual methanol content of <10 ppm, produced by a pressurized procedure. The comparison example demonstrates a synthesis using a 25 pressureless procedure.

✓ Example 1

2316 kg 1,6-hexanediol, 2237 kg ϵ -caprolactone and 0.54 kg 30 titanium tetraisopropylate were placed in a reaction vessel fitted with a cross-arm agitator. The pressure was increased to 5.2 bar (abs.) with nitrogen. The batch was subsequently heated to 205°C over 3 hours. The pressure was held constant at 5.2 bar by means of a pressure control

system. After the desired temperature was reached, 800 kg dimethyl carbonate was added over 4 hours via an immersion tube (about 200 kg/hour). At the same time, a distillate with a DMC content of about 11 % was distilled off into a receiver. Thereafter, the temperature was reduced 5 to 195°C, and a further 1200 kg dimethyl carbonate was metered in over 12 hours (about 100 kg/hour). After the metered addition of 400 kg of the 1200 kg, the DMC content in the distillate was about 15 %, after the metered addition of 800 kg it was about 24 %, and at the end of the metered addition it was about 29 %. After 4 hours of further reaction, the 10 temperature was increased to 200°C and the pressure was reduced over 7 hours from 5.2 bar to 100 mbar. 10 Nm³ nitrogen were introduced via an immersed inlet tube. The residual methanol was removed. After 4 hours, the OH number was 42.5 mg KOH/g and the viscosity was 25,464 mPa.s. A further 80 kg 1,6-hexanediol were added. After a further 9 hours, the OH 15 number was 50.0 mg KOH/g and the viscosity was 20,748 mPa.s. A further 50 kg 1,6-hexanediol were added. After a further 5 hours, the OH number was 57.9 mg KOH/g and the viscosity was 14,513 mPa.s. The residual methanol content was <10 ppm. The total run time was about 48 hours.

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Example 2

2316 kg 1,6-hexanediol, 2237 kg ε-caprolactone, 0.54 kg titanium tetraisopropylate and 1000 g dimethyl carbonate were placed in a reaction vessel fitted with a cross-arm agitator. The pressure was increased to 5.2 25 bar (abs.) with nitrogen. The batch was subsequently heated to 180°C over 2 hours. The pressure was held constant at 5.2 bar by means of a pressure control system. A slight reflux occurred, the liquid from which was returned to the vessel. 1 hour after reaching 180°C, the dimethyl carbonate content in the reflux was about 17 %, and decreased to about 30 12.5 % after a further 5 hours.

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=> d his

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SEL RN

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L2 17 S E1-E17

FILE 'LREGISTRY' ENTERED AT 13:48:49 ON 08 DEC 2005
L3 STR
L4 STR

FILE 'REGISTRY' ENTERED AT 13:51:45 ON 08 DEC 2005
L5 4 S L3 AND L4
L6 193 S L3 AND L4 FUL
SAV L6 SHI492/A
L7 2 S L6 AND L2

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L9 82 S L8 (L) PREP/RL
L10 1 S L9 AND L1
L11 2 S L9 AND BYP/RL
L12 6 S L9 AND METHANOL

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L14 1 S 74-84-0/RN
L15 1 S 74-98-6/RN
L16 1 S 106-97-8/RN
L17 1 S 115-10-6/RN
L18 1 S 1333-74-0/RN
L19 1 S 7727-37-9/RN
L20 1 S 60-29-7/RN
L21 1 S 109-66-0/RN
L22 1 S 110-54-3/RN
L23 1 S 110-82-7/RN
L24 1 S 287-92-3/RN
L25 1 S 1634-04-4/RN
L26 1 S HELIUM/CN
L27 1 S 7440-59-7/RN
L28 1 S NEON/CN
L29 1 S 7440-01-9/RN
L30 1 S ARGON/CN
L31 1 S 7440-37-1/RN
L32 1 S KRYPTON/CN
L33 1 S 7439-90-9/RN
L34 1 S XENON/CN
L35 1 S 7440-63-3/RN
L36 1 S RADON/CN
L37 1 S 10043-92-2/RN
L38 13 S L13-L25
L39 6 S L27 OR L29 OR L31 OR L33 OR L35 OR L37
L40 1 S 67-56-1/RN

FILE 'HCAPLUS' ENTERED AT 14:44:59 ON 08 DEC 2005

L41 930236 S L38 OR L39
 L42 3 S L9 AND L41
 L43 129956 S L40
 L44 2 S L9 AND L43
 L45 7 S L11 OR L12 OR L42 OR L44
 L46 4 S L8 AND (L41 OR (INERT OR NOBLE OR NATURAL) (A) GAS?)
 L47 8 S L45 OR L46
 L48 32 S L9 AND TEM/RL
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 L50 4 S L9 NOT L49
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L3 STR

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1 2 3

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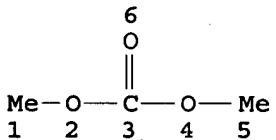
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GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE

L4 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

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 L8 96 SEA FILE=HCAPLUS ABB=ON PLU=ON L6
 L9 82 SEA FILE=HCAPLUS ABB=ON PLU=ON L8 (L) PREP/RL
 L11 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L9 AND BYP/RL
 L12 6 SEA FILE=HCAPLUS ABB=ON PLU=ON L9 AND METHANOL
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 L14 1 SEA FILE=REGISTRY ABB=ON PLU=ON 74-84-0/RN
 L15 1 SEA FILE=REGISTRY ABB=ON PLU=ON 74-98-6/RN
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| L35 | 1 SEA FILE=REGISTRY ABB=ON | PLU=ON | 7440-63-3/RN |
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| L42 | 3 SEA FILE=HCAPLUS ABB=ON | PLU=ON | L9 AND L41 |
| L43 | 129956 SEA FILE=HCAPLUS ABB=ON | PLU=ON | L40 |
| L44 | 2 SEA FILE=HCAPLUS ABB=ON | PLU=ON | L9 AND L43 |
| L45 | 7 SEA FILE=HCAPLUS ABB=ON | PLU=ON | L11 OR L12 OR L42 OR L44 |
| L46 | 4 SEA FILE=HCAPLUS ABB=ON | PLU=ON | L8 AND (L41 OR (INERT OR NOBLE OR NATURAL) (A) GAS?) |
| L47 | 8 SEA FILE=HCAPLUS ABB=ON | PLU=ON | L45 OR L46 |
| L49 | 78 SEA FILE=HCAPLUS ABB=ON | PLU=ON | L9 AND P/DT |
| L50 | 4 SEA FILE=HCAPLUS ABB=ON | PLU=ON | L9 NOT L49 |
| L51 | 69 SEA FILE=HCAPLUS ABB=ON | PLU=ON | L49 AND (1907-2001)/PR Y,AY |
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| L53 | 71 SEA FILE=HCAPLUS ABB=ON | PLU=ON | L51 OR L52 |
| L54 | 75 SEA FILE=HCAPLUS ABB=ON | PLU=ON | L47 OR L53 |

=> fil hcap
FILE 'HCAPLUS' ENTERED AT 15:06:05 ON 08 DEC 2005

=> d 154 1-75 ibib abs hitstr hitind

| | | | |
|-------------------------|--|---------|---------------------------|
| L54 | ANSWER 1 OF 75 | HCAPLUS | COPYRIGHT 2005 ACS on STN |
| ACCESSION NUMBER: | 2005:259743 HCAPLUS | | |
| DOCUMENT NUMBER: | 142:317551 | | |
| TITLE: | Preparation of aliphatic oligocarbonate diols | | |
| INVENTOR(S): | Hofacker, Steffen; Bachmann, Rolf; Backer, Lothar; Witossek, Herbert | | |
| PATENT ASSIGNEE(S): | Germany | | |
| SOURCE: | U.S. Pat. Appl. Publ., 5 pp. | | |
| DOCUMENT TYPE: | Patent | | |
| LANGUAGE: | English | | |
| FAMILY ACC. NUM. COUNT: | 1 | | |
| PATENT INFORMATION: | | | |

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|---|----------|--------------------|--------------|
| US 2005065360 | A1 | 20050324 | US 2004-941659 | 2004 0915 |
| DE 10343471 | A1 | 20050512 | DE 2003-10343471 | 2003 0919 |
| EP 1518879 | A2 | 20050330 | EP 2004-21318 | 2004 0908 |
| EP 1518879 | A3 | 20050427 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR | | | |
| JP 2005089464 | A2 | 20050407 | JP 2004-268724 | 2004 0915 |
| CA 2481978 | AA | 20050319 | CA 2004-2481978 | 2004 0916 |
| PRIORITY APPLN. INFO.: | | | DE 2003-10343471 A | 2003 0919 |

AB The present invention relates to an improved process for preparing aliphatic oligocarbonate diols by transesterifying di-Me carbonate (DMC) with aliphatic diols. Thus, 9270 kg 1,6-hexanediol and 8950 kg ϵ -caprolactone were stirred at 70°, 1,5 kg titanium tetrakisopropoxide was added therein, increased the reactor pressure to 5.2 bar by nitrogen, heated at 200°, 7300 kg di-Me carbonate was added therein, distilled off methanol formed, decreased temperature 180°, reduced the reactor pressure to atmospheric pressure within 3 h, reduced the reactor pressure to 90 mbar within 12 h, 2 m3/h nitrogen was introduced to remove residual methanol, the vacuum was reduced to 30 mbar, heated at 180° for 26 h under <60 mbar, 250 kg 1,6-hexanediol was added therein, 2.0 kg di-Bu phosphate was added therein, and cooled to 100° to give an oligocarbonate with number average mol. weight 2000, hydroxy number 57.8 mg-KOH/g, viscosity 15,800 mPa-s at 23°, OH functionality 1.94, and terminal Me ether content 1.7 mol%.

IT 282534-15-0DP, ϵ -Caprolactone-dimethyl carbonate-1,6-hexanediol copolymer, diol-terminated (oligomer; preparation of aliphatic oligocarbonate diols)

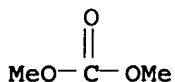
RN 282534-15-0 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 2-oxepanone (9CI) (CA INDEX NAME)

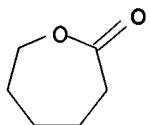
CM 1

CRN 629-11-8
CMF C6 H14 O2HO—(CH₂)₆—OH

CM 2

CRN 616-38-6
CMF C3 H6 O3

CM 3

CRN 502-44-3
CMF C6 H10 O2

IC ICM C07C069-96
 INCL 558265000
 CC 37-3 (Plastics Manufacture and Processing)
 IT 282534-15-0DP, ϵ -Caprolactone-dimethyl
 carbonate-1,6-hexanediol copolymer, diol-terminated
 (oligomer; preparation of aliphatic oligocarbonate diols)

L54 ANSWER 2 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:259742 HCAPLUS
 DOCUMENT NUMBER: 142:317550
 TITLE: Preparation of aliphatic oligocarbonate
 polyols by transesterification
 INVENTOR(S): Hofacker, Steffen; Witossek, Herbert; Backer,
 Lothar
 PATENT ASSIGNEE(S): Germany
 SOURCE: U.S. Pat. Appl. Publ., 6 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|------------------|--------------|
| US 2005065359 | A1 | 20050324 | US 2004-941656 | 2004 0915 |
| DE 10343472 | A1 | 20050414 | DE 2003-10343472 | 2003 0919 |
| EP 1520869 | A1 | 20050406 | EP 2004-21317 | 2004 0908 |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,
 EE, HU, PL, SK, HR

JP 2005089463 A2 20050407 JP 2004-268720

2004
 0915

CA 2481997 AA 20050319 CA 2004-2481997

2004
 0916

PRIORITY APPLN. INFO.:

DE 2003-10343472 A
 2003
 0919

AB The present invention relates to an improved process for preparing aliphatic oligocarbonate polyols by transesterifying di-Me carbonate (DMC) with an aliphatic polyol component. Thus, 1,6-hexanediol 14,940, di-Me carbonate 5292, and ytterbium acetylacetone 3.6 kg were heated at 70°, increased pressure at 5.2 bar, heated at 150° for 1 h, decreased pressure at 2.2 bar within 5 h, distilled off methanol/dimethyl carbonate mixture at 2.2 bar for 1 h, increased pressure at 5.2 bar, 5292 kg di-Me carbonate was added therein and refluxed for 1 h, repeated distillation procedure, increased pressure at 4.2 bar, 3699 di-Me carbonate was added therein and refluxed for 1 h, removed methanol, reduced pressure 30 mbar, heated at 170° for 4 h and 190°, and addnl. 1,6-hexanediol (total 545 kg) was added therein to correct the mixture, giving a oligocarbonate diol with number average mol. weight 200, hydroxy number 54.3 mg-KOH/g, viscosity at 75° 2620 mPa-s, and color number (APHA) 37.

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer (oligomer; preparation of aliphatic oligocarbonate polyols by transesterification)

RN 101325-00-2 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)
 (CA INDEX NAME)

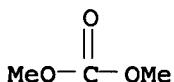
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CRN 629-11-8
 CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6
 CMF C3 H6 O3



IC ICM C07C069-96
 INCL 558265000
 CC 37-3 (Plastics Manufacture and Processing)

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer
(oligomer; preparation of aliphatic oligocarbonate polyols by transesterification)

L54 ANSWER 3 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:984862 HCAPLUS

DOCUMENT NUMBER: 141:411403

TITLE: Ytterbium acetylacetone as catalyst for the preparation of aliphatic oligocarbonate-polyols

INVENTOR(S): Hofacker, Steffen

PATENT ASSIGNEE(S): Bayer Materialscience A.-G., Germany

SOURCE: Eur. Pat. Appl., 9 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|------------------|-------------------|
| EP 1477508 | A1 | 20041117 | EP 2004-10355 | 2004 0430 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR | | | | |
| DE 10321149 | A1 | 20041202 | DE 2003-10321149 | 2003 0512 |
| CA 2466255 | AA | 20041112 | CA 2004-2466255 | 2004 0504 |
| US 2004230069 | A1 | 20041118 | US 2004-842402 | 2004 0510 |
| JP 2004339511 | A2 | 20041202 | JP 2004-142186 | 2004 0512 |
| PRIORITY APPLN. INFO.: | | | DE 2003-10321149 | A 2003 0512 |

AB Aliphatic oligocarbonate-polyols with mol. weight 500 - 5,000, useful in the preparation of polyurethane prepolymers are prepared from aliphatic polyols and organic carbonates in the presence of ytterbium acetylacetone (I) as transesterification catalyst. Thus, heating 1759 g of 1,6-hexanediol and 0.02 g of I at 160°, heating 1 h at 185°, adding 1245.5 g of di-Me carbonate, removing methanol and the rest of di-Me carbonate, adding 185 g of 1,6-hexanediol and heating 6 h at 180° gave a polymer having OH number 56.5 mg KOH/g, mol. weight 2,000 and viscosity 2,800 mPa s at 75°. This polymer is used by reacting with 4,4'-diphenylmethane diisocyanate at 80° for preparing a polyurethane having NCO-content 8.40 weight% and viscosity 6,980 mPa s at 70°.

IT 101325-00-2P, 1,6-Hexanediol-dimethyl carbonate copolymer (polyurethane precursor; ytterbium acetylacetone as transesterification catalyst for the preparation of aliphatic

oligocarbonate-polyols)
 RN 101325-00-2 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)
 (CA INDEX NAME)

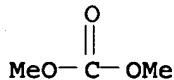
CM 1

CRN 629-11-8
 CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6
 CMF C3 H6 O3



IT 123256-09-7P, Dimethyl carbonate-4,4'-diphenylmethane
 diisocyanate-1,6-Hexanediol copolymer
 (ytterbium acetylacetone as transesterification catalyst for
 the preparation of aliphatic oligocarbonate-polyols)
 RN 123256-09-7 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and
 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

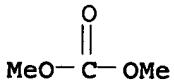
CM 1

CRN 629-11-8
 CMF C6 H14 O2

HO—(CH₂)₆—OH

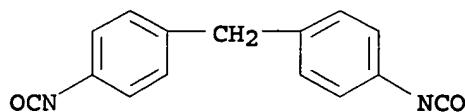
CM 2

CRN 616-38-6
 CMF C3 H6 O3



CM 3

CRN 101-68-8
 CMF C15 H10 N2 O2



IC ICM C08G064-30
 ICS C08G018-44; C08G063-64
 CC 35-3 (Chemistry of Synthetic High Polymers)
 IT 24937-06-2P, Poly(oxycarbonyloxy-1,6-hexanediyl)
 101325-00-2P, 1,6-Hexanediol-dimethyl carbonate copolymer
 (polyurethane precursor; ytterbium acetylacetone as
 transesterification catalyst for the preparation of aliphatic
 oligocarbonate-polyols)
 IT 123256-09-7P, Dimethyl carbonate-4,4'-diphenylmethane
 diisocyanate-1,6-Hexanediol copolymer
 (ytterbium acetylacetone as transesterification catalyst for
 the preparation of aliphatic oligocarbonate-polyols)
 REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L54 ANSWER 4 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:589287 HCAPLUS
 DOCUMENT NUMBER: 141:125385
 TITLE: Process for producing aliphatic oligocarbonate
 diols
 INVENTOR(S): Tillack, Jorg; Laue, Jorg; Witossek, Herbert;
 Schlemenat, Andreas
 PATENT ASSIGNEE(S): Germany
 SOURCE: U.S. Pat. Appl. Publ., 8 pp., Cont.-in-part of
 U.S. Ser. No. 180,831.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|------------------|-------------------|
| US 2004143130 | A1 | 20040722 | US 2003-735492 | 2003 1212 |
| DE 10130882 | A1 | 20030116 | DE 2001-10130882 | 2001 0627 |
| US 2003009047 | A1 | 20030109 | US 2002-180831 | 2002 0626 |
| US 6818784 | B2 | 20041116 | <-- | |
| PRIORITY APPLN. INFO.: | | | DE 2001-10130882 | A 2001 0627 |
| | | | <-- | |

US 2002-180831

A2

2002
0626

AB A process for producing an aliphatic oligocarbonate diol comprises:
 (a) reacting an aliphatic diol with di-Me carbonate (DMC), in a transesterification, at an elevated pressure in a reaction mixture;
 (b) removing methanol and unreacted di-Me carbonate at a pressure of from 1 bar to the pressure in (a); and (c) after the reaction of the aliphatic diol and DMC is complete, removing any remaining methanol and any unreacted di-Me carbonate at a pressure of less than 1 bar to uncap the terminal OH groups, optionally assisted by addition of an inert gas.

IT 74-82-8, Methane, uses 74-84-0, Ethane, uses
 74-98-6, Propane, uses 106-97-8, Butane, uses
 115-10-6, Dimethyl ether 1333-74-0, Hydrogen,
 uses 7727-37-9, Nitrogen, uses
 (inert gas; preparation of aliphatic oligocarbonate diols)

RN 74-82-8 HCAPLUS

CN Methane (8CI, 9CI) (CA INDEX NAME)

 CH_4

RN 74-84-0 HCAPLUS

CN Ethane (8CI, 9CI) (CA INDEX NAME)

 $\text{H}_3\text{C}-\text{CH}_3$

RN 74-98-6 HCAPLUS

CN Propane (8CI, 9CI) (CA INDEX NAME)

 $\text{H}_3\text{C}-\text{CH}_2-\text{CH}_3$

RN 106-97-8 HCAPLUS

CN Butane (8CI, 9CI) (CA INDEX NAME)

 $\text{H}_3\text{C}-\text{CH}_2-\text{CH}_2-\text{CH}_3$

RN 115-10-6 HCAPLUS

CN Methane, oxybis- (9CI) (CA INDEX NAME)

 $\text{H}_3\text{C}-\text{O}-\text{CH}_3$

RN 1333-74-0 HCAPLUS

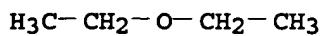
CN Hydrogen (8CI, 9CI) (CA INDEX NAME)

 $\text{H}-\text{H}$

RN 7727-37-9 HCAPLUS
 CN Nitrogen (8CI, 9CI) (CA INDEX NAME)



IT 60-29-7, Diethyl ether, uses 109-66-0, Pentane,
 uses 110-54-3, Hexane, uses 110-82-7,
 Cyclohexane, uses 287-92-3, Cyclopentane
 1634-04-4, Methyl tert-butyl ether
 (low-boiling liquid; preparation of aliphatic oligocarbonate diols)
 RN 60-29-7 HCAPLUS
 CN Ethane, 1,1'-oxybis- (9CI) (CA INDEX NAME)



RN 109-66-0 HCAPLUS
 CN Pentane (8CI, 9CI) (CA INDEX NAME)



RN 110-54-3 HCAPLUS
 CN Hexane (8CI, 9CI) (CA INDEX NAME)



RN 110-82-7 HCAPLUS
 CN Cyclohexane (8CI, 9CI) (CA INDEX NAME)



RN 287-92-3 HCAPLUS
 CN Cyclopentane (8CI, 9CI) (CA INDEX NAME)



RN 1634-04-4 HCAPLUS
 CN Propane, 2-methoxy-2-methyl- (9CI) (CA INDEX NAME)

t-Bu—O—Me

IT 67-56-1P, Methanol, preparation
(preparation of aliphatic oligocarbonate diols)
RN 67-56-1 HCPLUS
CN Methanol (8CI, 9CI) (CA INDEX NAME)

H₃C—OH

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer
282534-15-0P, ϵ -Caprolactone-dimethyl
carbonate-1,6-hexanediol copolymer
(preparation of aliphatic oligocarbonate diols)
RN 101325-00-2 HCPLUS
CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)
(CA INDEX NAME)

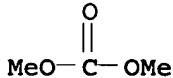
CM 1

CRN 629-11-8
CMF C₆ H₁₄ O₂

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6
CMF C₃ H₆ O₃



RN 282534-15-0 HCPLUS
CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and
2-oxepanone (9CI) (CA INDEX NAME)

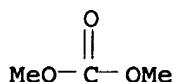
CM 1

CRN 629-11-8
CMF C₆ H₁₄ O₂

HO—(CH₂)₆—OH

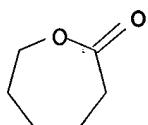
CM 2

CRN 616-38-6
CMF C₃ H₆ O₃



CM 3

CRN 502-44-3
 CMF C6 H10 O2



IC ICM C07C069-96
 INCL 558265000
 CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
 IT Natural gas, uses
 Noble gases, uses
 (inert gas; preparation of aliphatic oligocarbonate diols)
 IT 74-82-8, Methane, uses 74-84-0, Ethane, uses 74-98-6, Propane, uses 106-97-8, Butane, uses 115-10-6, Dimethyl ether 1333-74-0, Hydrogen, uses 7727-37-9, Nitrogen, uses
 (inert gas; preparation of aliphatic oligocarbonate diols)
 IT 60-29-7, Diethyl ether, uses 109-66-0, Pentane, uses 110-54-3, Hexane, uses 110-82-7, Cyclohexane, uses 287-92-3, Cyclopentane 1634-04-4, Methyl tert-butyl ether
 (low-boiling liquid; preparation of aliphatic oligocarbonate diols)
 IT 67-56-1P, Methanol, preparation
 (preparation of aliphatic oligocarbonate diols)
 IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer 282534-15-0P, ϵ -Caprolactone-dimethyl carbonate-1,6-hexanediol copolymer 724457-45-8P
 (preparation of aliphatic oligocarbonate diols)

L54 ANSWER 5 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003:886672 HCAPLUS
 DOCUMENT NUMBER: 139:338362
 TITLE: Improved transesterification process for the manufacture of poly(alkylene carbonates)
 INVENTOR(S): Sivaram, Swaminathan; Pokharkar, Varsha Baburao
 PATENT ASSIGNEE(S): Council of Scientific and Industrial Research, India
 SOURCE: Indian, 16 pp.
 CODEN: INXXAP
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|--------------|
| IN 178867 | A | 19970705 | IN 1992-DE927 | 1992 1014 |

PRIORITY APPLN. INFO.:

| | |
|---------------|--------------|
| IN 1992-DE927 | 1992 1014 |
|---------------|--------------|

AB Poly(alkylene carbonates) having mol. weight 5000-20,000 were manufactured by heating diols with 2-5-fold excess dialkyl carbonates in the presence of a catalyst selected from organotin compds. comprising Sn in valence state +4, at a temperature of 90-220°, over 8-15 h at atmospheric or subatmospheric pressure. For example, heating a stirred mixture of 0.22 mol 1,4-butanediol and 0.22 mol Bu₂SnO to 140°, cooling to 90°, adding 0.5 mol (MeO)₂CO dropwise over 30-40 min and heating the mixture to 130-180° over 4 h with removal of MeOH/(MeO)₂CO azeotrope gave polycarbonate oligomer with 70% conversion. The oligomer (10.0 g) was heated for 2 h at 175°/0.5 mmHg and at 190-200° over 4 h with 0.2 g 1,3-diphenoxytetrabutyldistannoxane to give poly(butylene carbonate) having inherent viscosity 0.54 dL/g; Mn 7960, glass temperature 53° and crystallinity 49%.

IT 101325-00-2P, 1,6-Hexanediol-Dimethyl carbonate copolymer
146789-33-5P, 1,4-Butanediol-Dimethyl carbonate copolymer
171926-74-2P, 1,8-Octanediol-Dimethyl carbonate copolymer
171926-77-5P, Dimethyl carbonate-Polytetramethylene glycol copolymer
(improved transesterification process for manufacture of poly(alkylene carbonates))

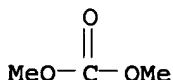
RN 101325-00-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)
(CA INDEX NAME)

CM 1

CRN 629-11-8
CMF C6 H14 O2HO- (CH₂)₆- OH

CM 2

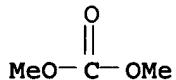
CRN 616-38-6
CMF C3 H6 O3

RN 146789-33-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol (9CI)
(CA INDEX NAME)

CM 1

CRN 616-38-6
CMF C3 H6 O3



CM 2

CRN 110-63-4
CMF C4 H10 O2

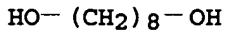


RN 171926-74-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,8-octanediol (9CI)
(CA INDEX NAME)

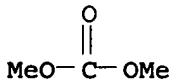
CM 1

CRN 629-41-4
CMF C8 H18 O2



CM 2

CRN 616-38-6
CMF C3 H6 O3

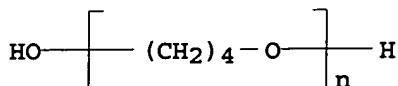


RN 171926-77-5 HCAPLUS

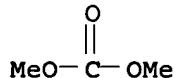
CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1
CMF (C4 H8 O)n H2 O
CCI PMS



CM 2

CRN 616-38-6
CMF C3 H6 O3

IC ICM C08G063-62
 CC 35-5 (Chemistry of Synthetic High Polymers)
 IT 24937-06-2P, 1,6-Hexanediol-Dimethyl carbonate copolymer, sru
 25805-40-7P, 1,4-Butanediol-Dimethyl carbonate copolymer, sru
 26894-28-0P, 1,4-Cyclohexanedimethanol-Dimethyl carbonate
 copolymer, sru 101325-00-2P, 1,6-Hexanediol-Dimethyl
 carbonate copolymer 146789-33-5P, 1,4-Butanediol-
 Dimethyl carbonate copolymer 171926-74-2P,
 1,8-Octanediol-Dimethyl carbonate copolymer 171926-75-3P,
 Dimethyl carbonate-1,8-Octanediol copolymer, sru 171926-76-4P,
 Dimethyl carbonate-1,4-Cyclohexanedimethanol copolymer
 171926-77-5P, Dimethyl carbonate-Polytetramethylene glycol
 copolymer 616239-82-8P, Dimethyl carbonate-1,4-
 Cyclohexanedimethanol-1,4-Cyclohexanediol copolymer
 (improved transesterification process for manufacture of
 poly(alkylene carbonates))

L54 ANSWER 6 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003:396689 HCAPLUS
 DOCUMENT NUMBER: 138:390577
 TITLE: Cosmetic preparation containing polycarbonates
 INVENTOR(S): Kawa, Rolf; Zander, Lars; Westfechtel, Alfred
 PATENT ASSIGNEE(S): Cognis Deutschland G.m.b.H. & Co. K.-G.,
 Germany
 SOURCE: PCT Int. Appl., 62 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|-------|----------|------------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| WO 2003041676 | A1 | 20030522 | WO 2002-EP12373 | 2002 1106 |
| | | | | <-- |
| W: AU, BR, CA, CN, JP, KR, MX, US | | | | |
| RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, | | | | |
| IE, IT, LU, MC, NL, PT, SE, SK, TR | | | | |
| DE 10155769 | A1 | 20030522 | DE 2001-10155769 | 2001 |

| | | | | |
|---|----|----------|----------------|------|
| EP 1443896 | A1 | 20040811 | EP 2002-802990 | 1114 |
| <-- | | | | 2002 |
| | | | | 1106 |
| <-- | | | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK | | | | |
| JP 2005508998 | T2 | 20050407 | JP 2003-543563 | 2002 |
| | | | | 1106 |
| <-- | | | | |
| US 2005090637 | A1 | 20050428 | US 2003-495391 | 2002 |
| | | | | 1106 |
| <-- | | | | |
| PRIORITY APPLN. INFO.: | | | | |
| DE 2001-10155769 A 2001 | | | | |
| 1114 | | | | |
| <-- | | | | |
| WO 2002-EP12373 W 2002 | | | | |
| 1106 | | | | |

AB The invention relates to cosmetic and pharmaceutical preps. containing polycarbonates with a mean molar mass of 300 to 100 000. Polycarbonates used are prepared by the reaction of a dimer diol or α,ω -alkane diol, especially α,ω -pentane diol or α,ω -hexane diol with dimethyl-, or di-Et carbonate.

The agents are characterized by improved water resistance and sensoric properties. The use of said polycarbonates is particularly advantageous in sunscreens, antiperspirants and insect repellents. Thus Polycarbonates I-VII where synthesized and used in sunscreens. A sunscreen contained (weight/weight%): Eumulgin VL75 4.0; Myritol 331 7.0; Cetiol OE 6.0; Eutanol G16 3.0; Polycarbonate I (Sovermol 913/1) 4.0; Neo Heliopan AV 7.4; Parsol 1789 2.0; Carbopol 2984 0.2; glycerin 5.0; sodium hydroxide to pH 7; preservative q.s.; water to 100.

IT 90385-29-8P

(Polycarbonate VI; cosmetic preparation containing polycarbonates)

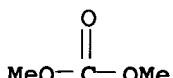
RN 90385-29-8 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,10-decanediol (9CI)
(CA INDEX NAME)

CM 1

CRN 616-38-6

CMF C3 H6 O3



CM 2

CRN 112-47-0

CMF C10 H22 O2

HO—(CH₂)₁₀—OH

IT 527704-69-4P

(Polycarbonate VII; cosmetic preparation containing polycarbonates)

RN 527704-69-4 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,10-decanediol and
1,12-dodecanediol (9CI) (CA INDEX NAME)

CM 1

CRN 5675-51-4

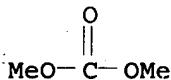
CMF C12 H26 O2

HO—(CH₂)₁₂—OH

CM 2

CRN 616-38-6

CMF C3 H6 O3



CM 3

CRN 112-47-0

CMF C10 H22 O2

HO—(CH₂)₁₀—OH

IC ICM A61K007-42

ICS A61K007-48

CC 62-4 (Essential Oils and Cosmetics)

IT 66837-12-5P, Poly(oxycarbonyloxy-1,10-decanediyl)
90385-29-8P

(Polycarbonate VI; cosmetic preparation containing polycarbonates)

IT 527704-69-4P

(Polycarbonate VII; cosmetic preparation containing polycarbonates)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L54 ANSWER 7 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:394866 HCAPLUS

DOCUMENT NUMBER: 138:385954

TITLE: Catalysts for the manufacture of aliphatic
oligocarbonate diols by transesterification of

INVENTOR(S) : organic carbonates with polyols
 Hofacker, Steffen; Guertler, Christoph;
 Tillack, Joerg
 PATENT ASSIGNEE(S) : Bayer Aktiengesellschaft, Germany
 SOURCE: Eur. Pat. Appl., 12 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|------------------|-------------------|
| EP 1312632 | A1 | 20030521 | EP 2002-24991 | 2002 1107 |
| <-- | | | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK | | | | |
| DE 10156896 | A1 | 20030528 | DE 2001-10156896 | 2001 1120 |
| <-- | | | | |
| CA 2411930 | AA | 20030520 | CA 2002-2411930 | 2002 1115 |
| <-- | | | | |
| US 2003125576 | A1 | 20030703 | US 2002-298705 | 2002 1118 |
| <-- | | | | |
| US 6894182 | B2 | 20050517 | | |
| CN 1420134 | A | 20030528 | CN 2002-152740 | 2002 1120 |
| <-- | | | | |
| JP 2003192783 | A2 | 20030709 | JP 2002-336209 | 2002 1120 |
| <-- | | | | |
| PRIORITY APPLN. INFO.: | | | DE 2001-10156896 | A 2001 1120 |
| <-- | | | | |

AB Metalorg. compds., complexes or salts of noble metals or group III metals (with a proviso) are useful for the title purpose. For example, heating a mixture of 4.15 g CO(OMe)₂ and 5.85 g 1,6-hexanediol for 6 h at 80° in the presence of 5.7 + 10-6 mol erbium 2,2,6,6-tetramethyl-3,5-heptanedionate gave 41.1% oligocarbonate diols, vs. 3.3% with the same amount of dibutyltin dilaurate.

IT 101325-00-2P, Dimethyl carbonate-1,6-Hexanediol copolymer (hydroxy-terminated; catalysts for the manufacture of aliphatic oligocarbonate diols by transesterification of organic carbonates with polyols)

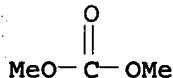
RN 101325-00-2 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8
CMF C6 H14 O2HO—(CH₂)₆—OH

CM 2

CRN 616-38-6
CMF C3 H6 O3IC ICM C08G064-30
ICS C08G064-20CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67IT 24937-06-2P, Dimethyl carbonate-1,6-Hexanediol copolymer, sru
101325-00-2P, Dimethyl carbonate-1,6-Hexanediol copolymer
(hydroxy-terminated; catalysts for the manufacture of aliphatic
oligocarbonate diols by transesterification of organic carbonates
with polyols)REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L54 ANSWER 8 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:386779 HCAPLUS

DOCUMENT NUMBER: 138:386710

TITLE: Low-resilience and high-strength urethane
rubber and polycarbonate diols therefor

INVENTOR(S): Okubo, Makoto; Sawai, Minoru

PATENT ASSIGNEE(S): Kao Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

| | | | | |
|---------------|----|----------|----------------|--------------|
| JP 2003147057 | A2 | 20030521 | JP 2001-349782 | 2001 1115 |
|---------------|----|----------|----------------|--------------|

PRIORITY APPLN. INFO.: JP 2001-349782

2001
1115

<--

AB The diols, producing urethane rubber (foams) useful for sheets, toys, shoe soles, etc., comprise (a) $(OCnH2nOCO)$ ($n = 2-6$, preferably 6) and (b) $[O(CmH2mO)xCO]$ ($m = 2-4$; $x = 2-15$) in molar ratio of a/b (2-9):(1-8) and satisfy Mn 400-3000. Thus, 1,6-hexanediol, diethylene glycol, and di-Me carbonate were transesterified and polycondensed to give a polycarbonate diol of viscosity (40°) 2864 mPa-s and Mn 989, 100 parts of which was blended with 5 parts ethylene glycol and 1 parts triethylenediamine, kneaded with MDI and Coronate MX (carbodiimide), and injected in a mold to give a cellular sheet showing d. 0.5 g/cm³, Asker C hardness 55, and resilience 8%.

IT 312582-94-8P, Diethylene glycol-dimethyl carbonate-1,6-hexanediol copolymer (polycarbonate diols containing hexamethylene units and producing low-resilience and high-strength urethane rubber foams)

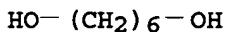
RN 312582-94-8 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 2,2'-oxybis[ethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

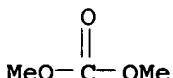
CMF C6 H14 O2



CM 2

CRN 616-38-6

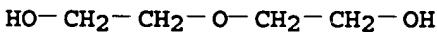
CMF C3 H6 O3



CM 3

CRN 111-46-6

CMF C4 H10 O3



IT 524918-67-0P

(rubber, cellular; polycarbonate diols containing hexamethylene units and producing low-resilience and high-strength urethane rubber foams)

RN 524918-67-0 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with Coronate MX, 1,2-ethanediol, 1,6-hexanediol, 1,1'-methylenebis[4-isocyanatobenzene] and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

CM 1

CRN 196316-51-5
 CMF Unspecified
 CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

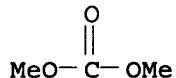
CM 2

CRN 629-11-8
 CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 3

CRN 616-38-6
 CMF C3 H6 O3



CM 4

CRN 111-46-6
 CMF C4 H10 O3

HO—CH₂—CH₂—O—CH₂—CH₂—OH

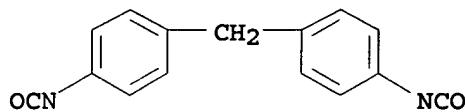
CM 5

CRN 107-21-1
 CMF C2 H6 O2

HO—CH₂—CH₂—OH

CM 6

CRN 101-68-8
 CMF C15 H10 N2 O2



IC ICM C08G063-64
 ICS C08G018-44
 CC 39-4 (Synthetic Elastomers and Natural Rubber)
 Section cross-reference(s): 37
 IT 312582-94-8P, Diethylene glycol-dimethyl
 carbonate-1,6-hexanediol copolymer
 (polycarbonate diols containing hexamethylene units and producing
 low-resilience and high-strength urethane rubber foams)
 IT 524918-67-0P
 (rubber, cellular; polycarbonate diols containing hexamethylene
 units and producing low-resilience and high-strength urethane
 rubber foams)

L54 ANSWER 9 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:132418 HCAPLUS
 DOCUMENT NUMBER: 138:171040
 TITLE: Manufacture of biodegradable unsaturated
 bond-containing aliphatic carbonates
 INVENTOR(S): Sugioka, Takuo; Yamaguchi, Yoshimi
 PATENT ASSIGNEE(S): Nippon Shokubai Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| JP 2003048978 | A2 | 20030221 | JP 2001-236970 | 2001 0803 |

PRIORITY APPLN. INFO.: JP 2001-236970
 <--
 2001
0803

AB The unsatd. bond-containing aliphatic carbonates are prepared by transesterification and condensation of (a) aliphatic polyhydric alcs. with ≥ 3 OH and/or alicyclic polyhydric alcs. with ≥ 3 OH with (b) alkyl carbonates, followed with esterification by using unsatd. monobasic acids. Thus, trimethylolpropane 134.2, di-Me carbonate 279.2, and ethylene glycol 186.2 g were heated up to 150° and stirred in N while removing 190 g byproduct MeOH, cooled to room temperature, mixed with p-toluenesulfonic acid, 223.38 g acrylic acid, and 4-hydroxy-2,2,6,6-tetramethylpiperidin-1-oxyl, heated up to 130° and stirred while removing byproduct H2O, washed, dried, and evaporated to yield 480 g of a colorless transparent viscous liquid

IT 497261-71-9P, Dimethyl carbonate-ethylene
 glycol-trimethylolpropane copolymer acrylate 497261-75-3P

, Diethylene glycol-dimethyl carbonate-pentaerythritol copolymer acrylate

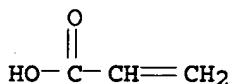
(manufacture of biodegradable unsatd. bond-containing aliphatic carbonates)

RN 497261-71-9 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,2-ethanediol and 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
CMF C3 H4 O2

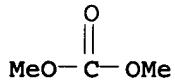


CM 2

CRN 497261-70-8
CMF (C6 H14 O3 . C3 H6 O3 . C2 H6 O2)x
CCI PMS

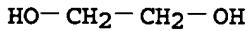
CM 3

CRN 616-38-6
CMF C3 H6 O3



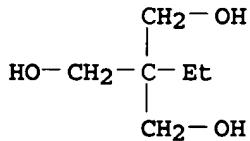
CM 4

CRN 107-21-1
CMF C2 H6 O2



CM 5

CRN 77-99-6
CMF C6 H14 O3



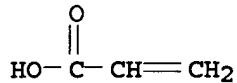
RN 497261-75-3 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 2,2-bis(hydroxymethyl)-1,3-propanediol and 2,2'-oxybis[ethanol], 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



CM 2

CRN 497261-74-2

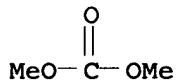
CMF (C5 H12 O4 . C4 H10 O3 . C3 H6 O3)x

CCI PMS

CM 3

CRN 616-38-6

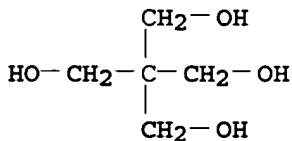
CMF C3 H6 O3



CM 4

CRN 115-77-5

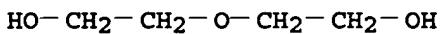
CMF C5 H12 O4



CM 5

CRN 111-46-6

CMF C4 H10 O3



IC ICM C08G064-42

CC 37-3 (Plastics Manufacture and Processing)
 IT 497261-71-9P, Dimethyl carbonate-ethylene
 glycol-trimethylolpropane copolymer acrylate 497261-73-1P,
 Diethyl carbonate-glycerin-tetraethylene glycol copolymer
 methacrylate 497261-75-3P, Diethylene glycol-dimethyl
 carbonate-pentaerythritol copolymer acrylate
 (manufacture of biodegradable unsatd. bond-containing aliphatic carbonates)

L54 ANSWER 10 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:68645 HCAPLUS

DOCUMENT NUMBER: 138:123743

TITLE: Polycarbonate-polyurethane elastomer foams
 with good strength and abrasion resistance,
 and their manufacture

INVENTOR(S): Okubo, Makoto; Sawai, Minoru; Fukumoto, Kazuo

PATENT ASSIGNEE(S): Kao Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|--------------|
| JP 2003026754 | A2 | 20030129 | JP 2001-217239 | 2001 0717 |

PRIORITY APPLN. INFO.: JP 2001-217239
 2001
 0717

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AB The elastomer foams with d. 0.2-1.0 g/cm³ are claimed. Thus, a composition comprising di-Me carbonate-dipropylene glycol-MDI prepolymer, polypropylene triol (Excenol 845), diethylene

glycol-dimethyl carbonate-ethoxylated polypropylene glycol (Preminol 5005) copolymer, ethylene glycol, diethylene glycol, and additives was blown and injection-molded to give a test piece showing d. 0.300 g/cm³, hardness 29, 300% modules 1.11 MPa, and tearing strength 7.53 kN/m.

IT 489427-64-7P, Diethylene glycol-dimethyl carbonate-dipropylene glycol-ethylene glycol-Excenol 845-MDI-Preminol 5005 copolymer 489427-65-8P, Diethylene glycol-dimethyl carbonate-ethylene glycol-Excenol 420-Excenol 845-MDI-Preminol 5005 copolymer (rubber; polycarbonate-polyurethane elastomer foams with good strength and abrasion resistance)

RN 489427-64-7 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,2-ethanediol, Excenol 845, 1,1'-methylenebis[4-isocyanatobenzene], 2,2'-oxybis[ethanol], oxybis[propanol] and Preminol 5005 (9CI) (CA INDEX NAME)

CM 1

CRN 279676-14-1

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

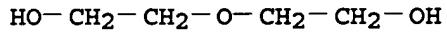
CM 2

CRN 132469-61-5
 CMF Unspecified
 CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

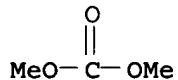
CRN 25265-71-8
 CMF C6 H14 O3
 CCI IDS



2 (D1-Me)

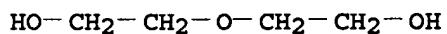
CM 4

CRN 616-38-6
 CMF C3 H6 O3



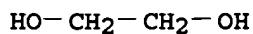
CM 5

CRN 111-46-6
 CMF C4 H10 O3



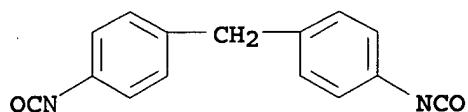
CM 6

CRN 107-21-1
 CMF C2 H6 O2



CM 7

CRN 101-68-8
 CMF C15 H10 N2 O2



RN 489427-65-8 HCPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,2-ethanediol, Excenol 420, excenol 845, 1,1'-methylenebis[4-isocyanatobenzene], 2,2'-oxybis[ethanol] and Preminol 5005 (9CI) (CA INDEX NAME)

CM 1

CRN 279676-14-1
 CMF Unspecified
 CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 132469-61-5
 CMF Unspecified
 CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

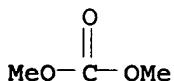
CM 3

CRN 124448-73-3
 CMF Unspecified
 CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

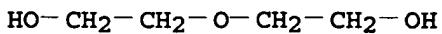
CM 4

CRN 616-38-6
 CMF C3 H6 O3



CM 5

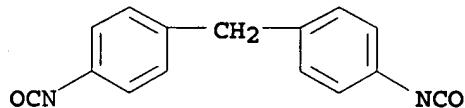
CRN 111-46-6
 CMF C4 H10 O3



CM 6

CRN 107-21-1
CMF C2 H6 O2HO—CH₂—CH₂—OH

CM 7

CRN 101-68-8
CMF C15 H10 N2 O2

IC ICM C08G018-44
 ICS C08G018-44; C08G101-00
 CC 39-4 (Synthetic Elastomers and Natural Rubber)
 IT 489427-64-7P, Diethylene glycol-dimethyl carbonate-dipropylene glycol-ethylene glycol-Excenol 845-MDI-Preminol 5005 copolymer 489427-65-8P, Diethylene glycol-dimethyl carbonate-ethylene glycol-Excenol 420-Excenol 845-MDI-Preminol 5005 copolymer (rubber; polycarbonate-polyurethane elastomer foams with good strength and abrasion resistance)

L54 ANSWER 11 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003:22934 HCPLUS
 DOCUMENT NUMBER: 138:73713
 TITLE: Production of aliphatic oligocarbonate diols
 INVENTOR(S): Tillack, Joerg; Laue, Joerg; Witossek, Herbert; Schlemenat, Andreas
 PATENT ASSIGNEE(S): Bayer Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 26 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| WO 2003002630 | A2 | 20030109 | WO 2002-EP7106 | 2002 0627 |

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| | | |
|---------------|---|----------|
| WO 2003002630 | A3 | 20030320 |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, | |

MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE,
 SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
 VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT,
 BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,
 NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
 ML, MR, NE, SN, TD, TG

| | | | | |
|--|----|----------|------------------|--------------|
| DE 10130882 | A1 | 20030116 | DE 2001-10130882 | 2001 0627 |
| CA 2451467 | AA | 20030109 | CA 2002-2451467 | 2002 0627 |
| EP 1404740 | A2 | 20040407 | EP 2002-760199 | 2002 0627 |
| EP 1404740 | B1 | 20041201 | <-- | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| CN 1522270 | A | 20040818 | CN 2002-813233 | 2002 0627 |
| JP 2004533474 | T2 | 20041104 | JP 2003-509008 | 2002 0627 |
| AT 283883 | E | 20041215 | AT 2002-760199 | 2002 0627 |
| ES 2233851 | T3 | 20050616 | ES 2002-2760199 | 2002 0627 |
| PRIORITY APPLN. INFO.: | | | | |
| DE 2001-10130882 A 2001 0627 | | | | |
| WO 2002-EP7106 W 2002 0627 | | | | |

AB In the title process, which is simple and productive and can be carried out on a large scale, diols are treated with (MeO)₂CO (I) under pressure, optionally in the presence of catalysts, and to complete the reaction, unreacted MeOH and I are removed under reduced pressure. Heating a mixture of 1,6-hexanediol 2316, ϵ -caprolactone 2237, and Ti(OPr-iso)₄ 0.54 kg under N (5.2 bar) over 3 h to 205°, adding 800 kg I over 4 h while distilling volatiles containing .apprx.11% I, cooling to 195°, adding 1200 kg I over 12 h, heating for 4 h, heating to 200° and lowering the pressure over 7 h to 100 mbar, adding N, removing residual MeOH, and adding 80 kg hexanediol and, after 9 h, another 50 g, gave an oligocarbonate with OH number 57.9 and viscosity 14.531 Pa-s.

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer

**282534-15-0P, ϵ -Caprolactone-dimethyl carbonate-1,6-hexanediol copolymer
(oligomeric; production of aliphatic oligocarbonate diols)**

RN 101325-00-2 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)
(CA INDEX NAME)

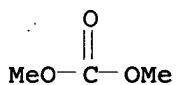
CM 1

CRN 629-11-8
CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6
CMF C3 H6 O3



RN 282534-15-0 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 2-oxepanone (9CI) (CA INDEX NAME)

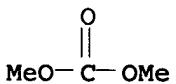
CM 1

CRN 629-11-8
CMF C6 H14 O2

HO—(CH₂)₆—OH

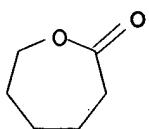
CM 2

CRN 616-38-6
CMF C3 H6 O3



CM 3

CRN 502-44-3
CMF C6 H10 O2



IC ICM C08G064-30
 CC 35-5 (Chemistry of Synthetic High Polymers)
 IT 24937-06-2P, Dimethyl carbonate-1,6-hexanediol copolymer, sru
 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer
 282534-15-0P, ϵ -Caprolactone-dimethyl
 carbonate-1,6-hexanediol copolymer
 (oligomeric; production of aliphatic oligocarbonate diols)

L54 ANSWER 12 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:847998 HCAPLUS
 DOCUMENT NUMBER: 137:354049

TITLE: Pressure-sensitive adhesive compositions with
 reduced gas generation in high temperature
 environment and their sheets

INVENTOR(S): Amano, Tatsumi; Ando, Masahiko

PATENT ASSIGNEE(S): Nitto Denko Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| JP 2002322452 | A2 | 20021108 | JP 2001-124738 | 2001 0423 |

PRIORITY APPLN. INFO.: JP 2001-124738

2001
0423

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AB The adhesive sheet, useful for elec. devices bonding, has on
 ≥1 face of a support adhesive layer(s) of the compns. which
 show weight loss (WL) ≤1% after 240 h at 120° contain
 as the principal components polyesters with Mn ≥1.0 +
 10 4, prepared from (A) aliphatic diols ROCO₂ (R₁ = linear or branched
 hydrocarbylene with number of C in linear chains 9-20) and (B)
 polyhydric alcs. with ≥3 OH and/or polyvalent carboxylic
 acids with valency ≥3. The adhesive sheet has good
 conformity to rough faces initially after bonding. Thus,
 2-Me-1,8-octanediol-1,9-nanediol-dimethyl carbonate copolymer
 diol (reaction ratio 136:24:90, OH value 55.1 KOH-mg/g, Mn 2000)
 200, sebacic acid 442.5, and trimethylolpropane 10 g were
 copolymerd. in PhMe in the presence of dibutyltin oxide to give a
 polyester with Mn 17,000 and polydispersity 3.0, then thinned with
 PhMe to concentration 30%. A pressure-sensitive adhesive composition
 containing

100 parts (solid) of the polyester and 2.5 parts
 trimethylolpropane-HDI trimer adducts (Coronate HL), applied on a
 poly(ethylene terephthalate) film, and dried at 130° to

give test pieces having high adhesion strength to a rough-surfaced Al plate and WL 1.3%.

IT 474536-00-0P 474536-03-3P

(polycarbonate-polyester-based pressure-sensitive adhesive compns. and their tapes for electronic devices bonding)

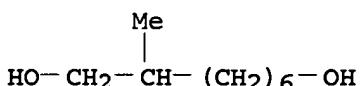
RN 474536-00-0 HCAPLUS

CN Decanedioic acid, polymer with dimethyl carbonate, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 2-methyl-1,8-octanediol and 1,9-nanediol (9CI) (CA INDEX NAME)

CM 1

CRN 109359-36-6

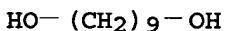
CMF C9 H20 O2



CM 2

CRN 3937-56-2

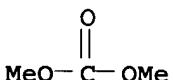
CMF C9 H20 O2



CM 3

CRN 616-38-6

CMF C3 H6 O3



CM 4

CRN 111-20-6

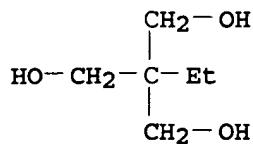
CMF C10 H18 O4



CM 5

CRN 77-99-6

CMF C6 H14 O3



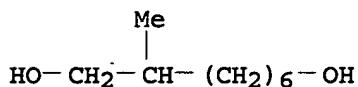
RN 474536-03-3 HCPLUS

CN 1,2,3,4-Butanetetracarboxylic acid, (2R,3S)-rel-, polymer with
decanedioic acid, dimethyl carbonate, 2-ethyl-2-(hydroxymethyl)-
1,3-propanediol, 2-methyl-1,8-octanediol and 1,9-nonanediol (9CI)
(CA INDEX NAME)

CM 1

CRN 109359-36-6

CMF C9 H20 O2

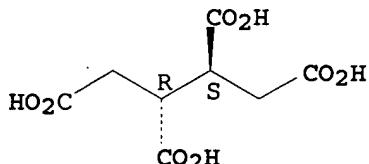


CM 2

CRN 4534-68-3

CMF C8 H10 O8

Relative stereochemistry.



CM 3

CRN 3937-56-2

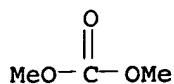
CMF C9 H20 O2



CM 4

CRN 616-38-6

CMF C3 H6 O3



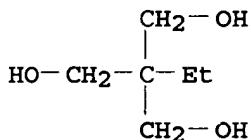
CM 5

CRN 111-20-6
 CMF C10 H18 O4



CM 6

CRN 77-99-6
 CMF C6 H14 O3



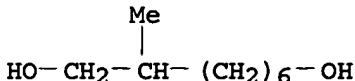
IT 474536-01-1P 474536-02-2P 474536-04-4P
 474536-05-5P
 (polycarbonate-polyester-based pressure-sensitive adhesive
 compns. and their tapes for electronic devices bonding)

RN 474536-01-1 HCAPLUS

CN Decanedioic acid, polymer with dimethyl carbonate,
 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 2-ethyl-2-[[[[[(6-
 isocyanatohexyl)amino]carbonyl]oxy]methyl]-1,3-propanediyl
 bis[(6-isocyanatohexyl)carbamate], 2-methyl-1,8-octanediol and
 1,9-nanediol (9CI) (CA INDEX NAME)

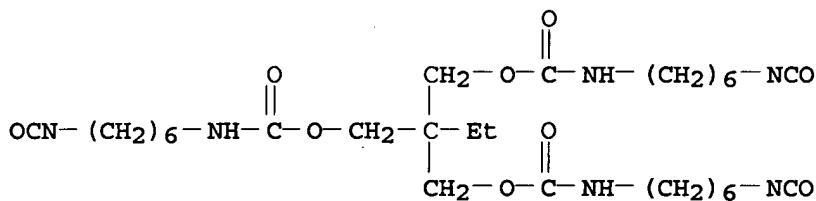
CM 1

CRN 109359-36-6
 CMF C9 H20 O2



CM 2

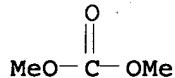
CRN 50886-64-1
 CMF C30 H50 N6 O9



CM 3

CRN 3937-56-2
CMF C9 H20 O2HO - (CH₂)₉ - OH

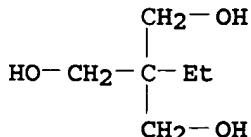
CM 4

CRN 616-38-6
CMF C3 H6 O3

CM 5

CRN 111-20-6
CMF C10 H18 O4HO₂C - (CH₂)₈ - CO₂H

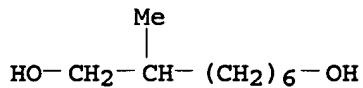
CM 6

CRN 77-99-6
CMF C6 H14 O3

RN 474536-02-2 HCPLUS
 CN Decanedioic acid, polymer with Coronate HL, dimethyl carbonate, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 2-methyl-1,8-octanediol and 1,9-nanediol (9CI) (CA INDEX NAME)

CM 1

CRN 109359-36-6
 CMF C9 H20 O2



CM 2

CRN 37293-38-2
 CMF Unspecified
 CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

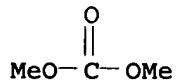
CM 3

CRN 3937-56-2
 CMF C9 H20 O2



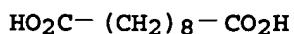
CM 4

CRN 616-38-6
 CMF C3 H6 O3



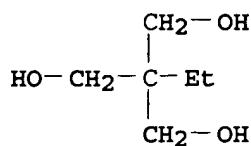
CM 5

CRN 111-20-6
 CMF C10 H18 O4



CM 6

CRN 77-99-6
 CMF C6 H14 O3



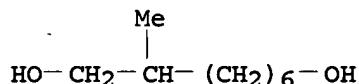
RN 474536-04-4 HCPLUS

CN 1,2,3,4-Butanetetracarboxylic acid, (2R,3S)-rel-, polymer with
 Coronate HL, decanedioic acid, dimethyl carbonate,
 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 2-methyl-1,8-octanediol
 and 1,9-nonanediol (9CI) (CA INDEX NAME)

CM 1

CRN 109359-36-6

CMF C9 H20 O2



CM 2

CRN 37293-38-2

CMF Unspecified
CCI PMS, MAN

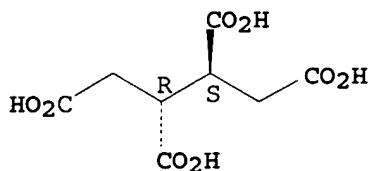
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 4534-68-3

CMF C8 H10 O8

Relative stereochemistry.



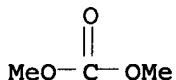
CM 4

CRN 3937-56-2

CMF C9 H20 O2

HO- (CH₂)₉-OH

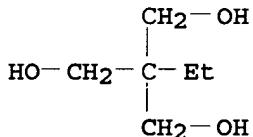
CM 5

CRN 616-38-6
CMF C3 H6 O3

CM 6

CRN 111-20-6
CMF C10 H18 O4

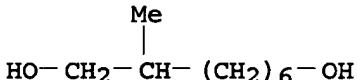
CM 7

CRN 77-99-6
CMF C6 H14 O3

RN 474536-05-5 HCPLUS

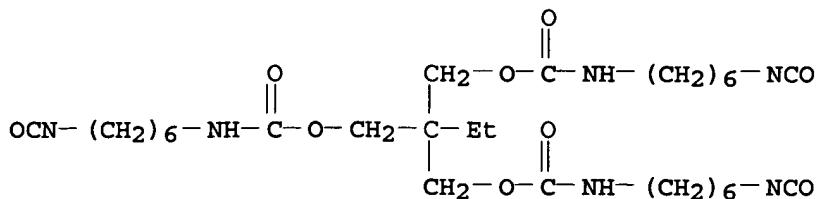
CN 1,2,3,4-Butanetetracarboxylic acid, (2R,3S)-rel-, polymer with decanedioic acid, dimethyl carbonate, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 2-ethyl-2-[[[[6-isocyanatohexyl)amino]carbonyl]oxy]methyl]-1,3-propanediyl bis[(6-isocyanatohexyl)carbamate], 2-methyl-1,8-octanediol and 1,9-nonanediol (9CI) (CA INDEX NAME)

CM 1

CRN 109359-36-6
CMF C9 H20 O2

CM 2

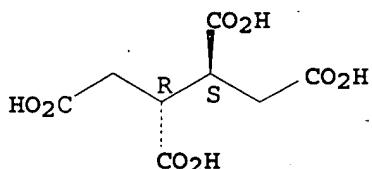
CRN 50886-64-1
CMF C30 H50 N6 O9



CM 3

CRN 4534-68-3
CMF C8 H10 08

Relative stereochemistry.



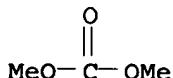
CM 4

CRN 3937-56-2
CMF C9 H20 O2

$$\text{HO}-(\text{CH}_2)_9-\text{OH}$$

CM 5

CRN 616-38-6
CMF C3 H6 O3



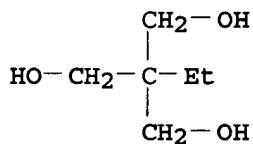
CM 6

CRN 111-20-6
CMF C10 H18 04

$$\text{HO}_2\text{C} - (\text{CH}_2)_8 - \text{CO}_2\text{H}$$

CM 7

CRN 77-99-6
CMF C6 H14 O3



IC ICM C09J167-00
ICS C08G063-64; C09J007-02
CC 38-3 (Plastics Fabrication and Uses)
IT 474536-00-0P 474536-03-3P
(polycarbonate-polyester-based pressure-sensitive adhesive
compns. and their tapes for electronic devices bonding)
IT 3937-56-2DP, 1,9-Nonanediol, polymer with di-Me carbonate, dimer
diol, trimethylolpropane, and sebacic acid 474536-01-1P
474536-02-2P 474536-04-4P 474536-05-5P
(polycarbonate-polyester-based pressure-sensitive adhesive
compns. and their tapes for electronic devices bonding)

L54 ANSWER 13 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:610428 HCAPLUS
DOCUMENT NUMBER: 137:141265
TITLE: Preparations of copolycarbonates with improved
processability, stability and resistance to
water absorption via solid state
polymerization
INVENTOR(S): Hait, Sukhendu Bikash
PATENT ASSIGNEE(S): General Electric Company, USA
SOURCE: U.S., 8 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| US 6433126 | B1 | 20020813 | US 2001-681755 | 2001 0531 |

PRIORITY APPLN. INFO.: US 2001-681755
2001
0531

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AB Polycarbonate copolymers, also having low birefringence and
suitable for optical application, were prepared from steps of: (1)
preparing a mixture comprising partially crystalline bisphenol A
polycarbonate oligomer and a source of addnl. structural units,
(2) subjecting the mixture to solid state polymerization. Thus, mixing
22.86 g amorphous R-2 oligomer (a mixture of bisphenol A and
o,p'-bisphenol A polycarbonate oligomer), 3.10 g
1,1-bis(4-hydroxyphenyl)-3,3,5-trimethylcyclohexane, and 2.14 g
diphenylcarbonate in 50 mL a 70:30 mixture of di-Me carbonate and
methanol for a h, removing the solvent and drying the

residue overnight, then melt-polymerizing the mixture gave a title copolycarbonate.

IT 444930-02-3P 444930-03-4P 444930-04-5P

444930-06-7P 444930-07-8P

(preps. of copolycarbonates via solid state polymerization)

RN 444930-02-3 HCAPLUS

CN Carbonic acid, polymer with dimethyl carbonate, diphenyl

carbonate, 2-[1-(4-hydroxyphenyl)-1-methylethyl]phenol,

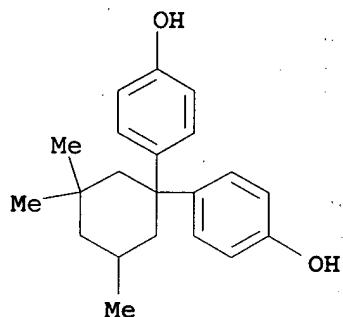
4,4'-(1-methylethylidene)bis[phenol] and 4,4'-(3,3,5-

trimethylcyclohexylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 129188-99-4

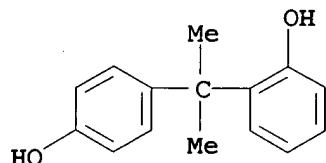
CMF C21 H26 O2



CM 2

CRN 837-08-1

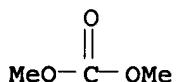
CMF C15 H16 O2



CM 3

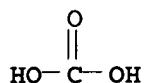
CRN 616-38-6

CMF C3 H6 O3



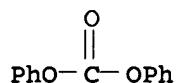
CM 4

CRN 463-79-6
CMF C H2 O3



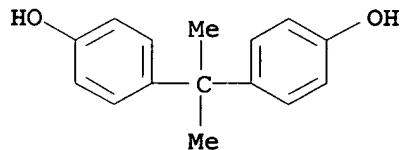
CM 5

CRN 102-09-0
CMF C13 H10 O3



CM 6

CRN 80-05-7
CMF C15 H16 O2

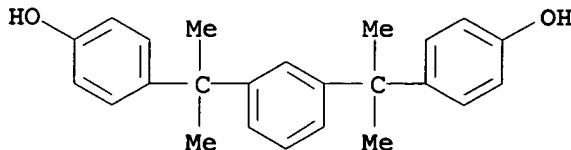


RN 444930-03-4 HCAPLUS

CN Carbonic acid, polymer with dimethyl carbonate, diphenyl carbonate, 2-[1-(4-hydroxyphenyl)-1-methylethyl]phenol, 4,4'-(1-methylethylidene)bis[phenol] and 4,4'-(1,3-phenylenebis(1-methylethylidene))bis[phenol] (9CI) (CA INDEX NAME)

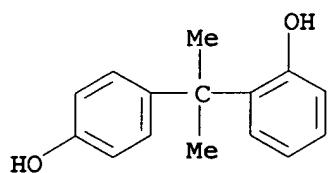
CM 1

CRN 13595-25-0
CMF C24 H26 O2

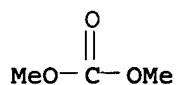


CM 2

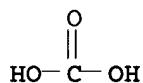
CRN 837-08-1
CMF C15 H16 O2



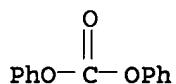
CM 3

CRN 616-38-6
CMF C3 H6 O3

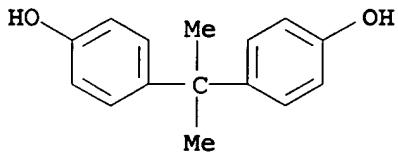
CM 4

CRN 463-79-6
CMF C H2 O3

CM 5

CRN 102-09-0
CMF C13 H10 O3

CM 6

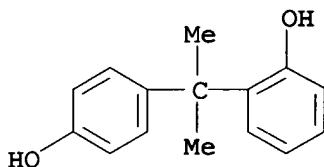
CRN 80-05-7
CMF C15 H16 O2

RN 444930-04-5 HCPLUS

CN Carbonic acid, polymer with dimethyl carbonate,
2-[1-(4-hydroxyphenyl)-1-methylethyl]phenol and
4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

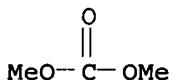
CM 1

CRN 837-08-1
CMF C15 H16 O2



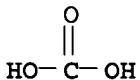
CM 2

CRN 616-38-6
CMF C3 H6 O3



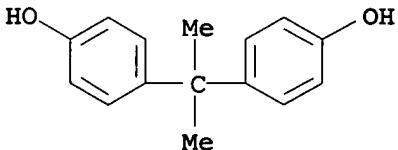
CM 3

CRN 463-79-6
CMF C H2 O3



CM 4

CRN 80-05-7
CMF C15 H16 O2

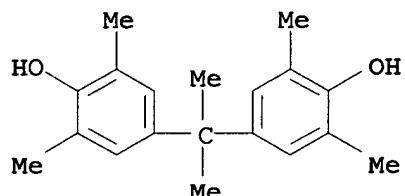


RN 444930-06-7 HCAPLUS
CN Ethanaminium, N-[bis(diethylamino)methylene]-N-ethyl-, salt with
4,4'-(1-methylethylidene)bis[phenol] (1:2), polymer with carbonic
acid, dimethyl carbonate, 2-[1-(4-hydroxyphenyl)-1-

methylethyl]phenol, 4,4'-(1-methylethylidene)bis[2,6-dimethylphenol] and 4,4'-(1-methylethylidene)bis[phenol] (9CI)
(CA INDEX NAME)

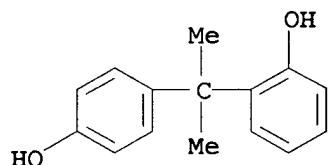
CM 1

CRN 5613-46-7
CMF C19 H24 O2



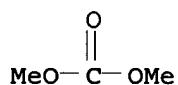
CM 2

CRN 837-08-1
CMF C15 H16 O2



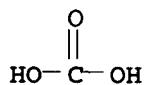
CM 3

CRN 616-38-6
CMF C3 H6 O3



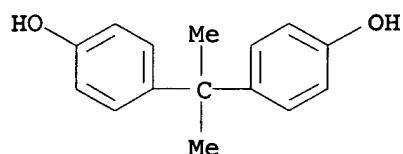
CM 4

CRN 463-79-6
CMF C H2 O3



CM 5

CRN 80-05-7
 CMF C15 H16 O2

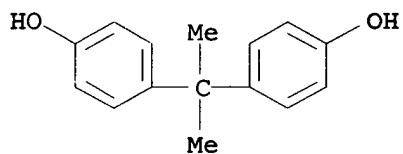


CM 6

CRN 178926-41-5
 CMF C15 H16 O2 . C15 H15 O2 . C13 H30 N3

CM 7

CRN 80-05-7
 CMF C15 H16 O2

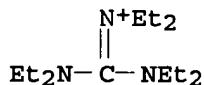


CM 8

CRN 178926-40-4
 CMF C15 H15 O2 . C13 H30 N3

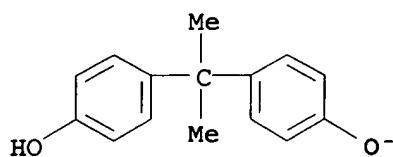
CM 9

CRN 74119-50-9
 CMF C13 H30 N3



CM 10

CRN 46776-02-7
 CMF C15 H15 O2



RN 444930-07-8 HCAPLUS

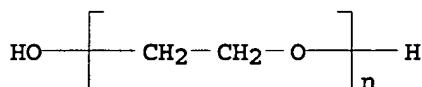
CN Ethanaminium, N-[bis(diethylamino)methylene]-N-ethyl-, salt with 4,4'-(1-methylethylidene)bis[phenol] (1:2), polymer with carbonic acid, dimethyl carbonate, α -hydro- ω -hydroxypoly(oxy-1,2-ethanediyl), 2-[1-(4-hydroxyphenyl)-1-methylethyl]phenol, 4,4'-(1-methylethylidene)bis[2,6-dimethylphenol] and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3

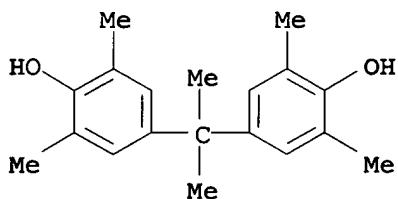
CMF (C₂ H₄ O)_n H₂ O

CCI PMS



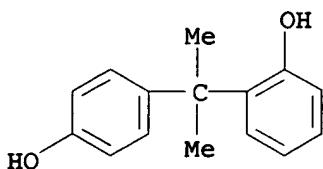
CM 2

CRN 5613-46-7

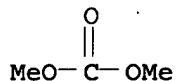
CMF C₁₉ H₂₄ O₂

CM 3

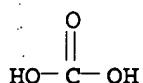
CRN 837-08-1

CMF C₁₅ H₁₆ O₂

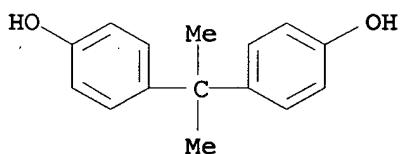
CM 4

CRN 616-38-6
CMF C3 H6 O3

CM 5

CRN 463-79-6
CMF C H2 O3

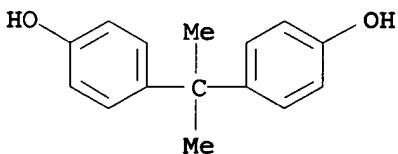
CM 6

CRN 80-05-7
CMF C15 H16 O2

CM 7

CRN 178926-41-5
CMF C15 H16 O2 . C15 H15 O2 . C13 H30 N3

CM 8

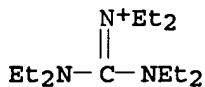
CRN 80-05-7
CMF C15 H16 O2

CM 9

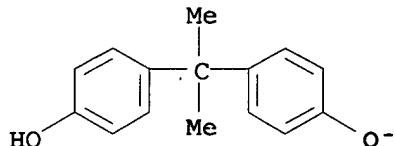
CRN 178926-40-4

CMF C15 H15 O2 . C13 H30 N3

CM 10

CRN 74119-50-9
CMF C13 H30 N3

CM 11

CRN 46776-02-7
CMF C15 H15 O2

IC ICM C08G064-00
 INCL 528196000
 CC 37-3 (Plastics Manufacture and Processing)
 IT 444930-02-3P 444930-03-4P 444930-04-5P
 444930-06-7P 444930-07-8P 444930-08-9P
 444930-09-0P

(preps. of copolycarbonates via solid state polymerization)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L54 ANSWER 14 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002:503404 HCAPLUS
 DOCUMENT NUMBER: 137:63928
 TITLE: Thermoplastic polyurethanes prepared from
 polyethercarbonate diols, diisocyanates and
 chain extenders
 INVENTOR(S): Tanaka, Hideho; Kunimura, Masaru; Kashiwagi,
 Kohichi; Kaneko, Takayoshi
 PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
 SOURCE: Eur. Pat. Appl., 21 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| EP 1219655 | A1 | 20020703 | EP 2001-130394 | 2001 1220 |

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EP 1219655 B1 20040303
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 JP 2002234929 A2 20020823 JP 2001-32349

2001
0208

ES 2217084 T3 20041101 ES 2001-1130394
 2001
1220

US 2002123595 A1 20020905 US 2001-35768
 2001
1226

US 6881856 B2 20050419
 JP 2002256069 A2 20020911 JP 2001-393399
 2001
1226

JP 3700648 B2 20050928
 US 2005143551 A1 20050630 US 2005-70969
 2005
0303

PRIORITY APPLN. INFO.: JP 2000-394482 A
 2000
1226

JP 2001-32349 A
 2001
0208

US 2001-35768 A3
 2001
1226

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AB The thermoplastic polyurethane, useful for elastomers, elastic fibers and artificial leathers comprises a reaction product of a diisocyanate (e.g., MDI), a chain extender (e.g., 1,4-butanediol) and a liquid polyethercarbonate diol obtained by reaction of a carbonate (e.g., di-Me carbonate) with a polyether diol (e.g., ethylene oxide) and having structural units (a) -(CH₂)₆O-, (b) -(CH₂)₂₀- and (c) -CH₂CH(CH₃)O-, wherein the units b has an average number (n) of moles 0-5 per mol of the units a, the units c has an average number (m) of moles 0-5 per mol of the units a, and the total average number (n + m) of moles of b and c is 1-5 per mol of a.

IT 439247-90-2P 439277-80-2P
 (thermoplastic polyurethanes prepared from polyethercarbonate diols, diisocyanates and chain extenders)

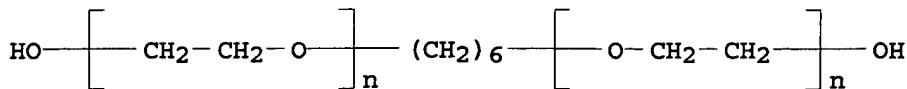
RN 439247-90-2 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, α,α' -1,6-hexanediylbis[ω -hydroxypoly(oxy-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatobenzene], block (9CI) (CA INDEX NAME)

CM 1

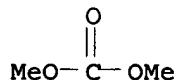
CRN 52365-03-4

CMF (C₂ H₄ O)_n (C₂ H₄ O)_n C₆ H₁₄ O₂
 CCI PMS



CM 2

CRN 616-38-6
 CMF C₃ H₆ O₃



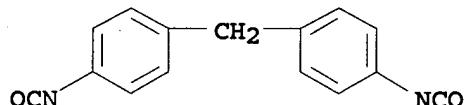
CM 3

CRN 110-63-4
 CMF C₄ H₁₀ O₂



CM 4

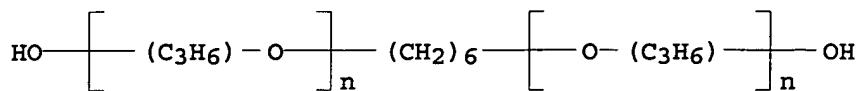
CRN 101-68-8
 CMF C₁₅ H₁₀ N₂ O₂



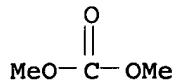
RN 439277-80-2 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, α,α' -1,6-hexanediylybis[ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)]] and 1,1'-methylenebis[4-isocyanatobenzene], block (9CI) (CA INDEX NAME)

CM 1

CRN 117968-95-3
 CMF (C₃ H₆ O)_n (C₃ H₆ O)_n C₆ H₁₄ O₂
 CCI IDS, PMS



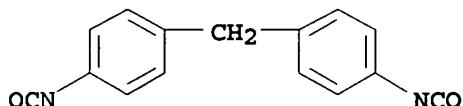
CM 2

CRN 616-38-6
CMF C3 H6 O3

CM 3

CRN 110-63-4
CMF C4 H10 O2

CM 4

CRN 101-68-8
CMF C15 H10 N2 O2

IC ICM C08G018-44
 ICS C08G018-66; C08G064-18; C08G018-76; C08G018-10
 CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 38, 39, 40
 IT 439247-90-2P 439247-91-3P 439247-92-4P
 439277-80-2P
 (thermoplastic polyurethanes prepared from polyethercarbonate
 diols, diisocyanates and chain extenders)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L54 ANSWER 15 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002:207564 HCPLUS
 DOCUMENT NUMBER: 136:263945
 TITLE: Styrenic block polymers and their use as
 antistatic agents
 INVENTOR(S): Okamoto, Tokiko; Araki, Fumikazu; Senda,
 Eiichi

PATENT ASSIGNEE(S) : Sanyo Chemical Industries Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 48 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------------|
| JP 2002080600 | A2 | 20020319 | JP 2001-200186 | 2001 0629 |
| <-- | | | | |
| PRIORITY APPLN. INFO.: | | | JP 2000-195659 | A 2000 0629 |
| <-- | | | | |

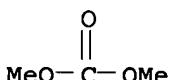
AB The block polymers contain a styrene polymer block and a hydrophilic polymer block that are chemical linked alternatively. Preparing a styrene-acrylonitrile copolymer using a carboxyl-terminated initiator (V501) and block polymerization with PEG 4000S (polyethylene glycol) gave a block copolymer with Mn 32,000. A composition contained 10 parts this block copolymer and 90 parts ABS10, giving test pieces with volume resistivity 5×10^{11} $\Omega\text{-cm}$ and good compatibility.

IT 404886-56-2DP, exchanged salt with hexafluorophosphoric acid
 (styrenic block polymers and their use as antistatic agents)

RN 404886-56-2 HCPLUS

CN Hexanedioic acid, polymer with ethenylbenzene, 2-(methylamino)ethanol and 2-propenenitrile, block, compd. with dimethyl carbonate (9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6
CMF C3 H6 O3

CM 2

CRN 404886-55-1
CMF (C8 H8 . C6 H10 O4 . C3 H9 N O . C3 H3 N)x
CCI PMS

CM 3

CRN 124-04-9
CMF C6 H10 O4



CM 4

CRN 109-83-1
 CMF C3 H9 N O



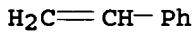
CM 5

CRN 107-13-1
 CMF C3 H3 N



CM 6

CRN 100-42-5
 CMF C8 H8



IC ICM C08G081-02

ICS C08L087-00; C08L101-00; C09K003-16

CC 37-6 (Plastics Manufacture and Processing)

IT 107087-30-9P, Caprolactam-polyethylene glycol block copolymer
 404886-54-0P, Acrylonitrile-styrene-ethylene oxide-caprolactam
 block copolymer 404886-56-2DP, exchanged salt with
 hexafluorophosphoric acid 404886-57-3P 404886-58-4P
 404886-60-8P 404886-61-9P 404912-41-0P, Acrylonitrile-styrene-
 ethylene oxide block copolymer
 (styrenic block polymers and their use as antistatic agents)

L54 ANSWER 16 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:169649 HCAPLUS

DOCUMENT NUMBER: 136:232999

TITLE: Polycarbonate diol copolymer and its
 manufactureINVENTOR(S): Okamoto, Hidemasa; Miwa, Yoshiyuki; Kunimura,
 Masaru; Kashiwagi, Koichi; Morie, Atsushi

PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|--------------|
| JP 2002069166 | A2 | 20020308 | JP 2000-258849 | 2000 0829 |

PRIORITY APPLN. INFO.: <--
JP 2000-258849
2000
0829

AB Title polycarbonate polymer is characterized by containing 1,6-hexanediol and 1,4-cyclohexanediethanol as diol components and by being liquid at room temperature. The polymer is manufactured by transesterification of polycarbonate (A) having 1,6-hexanediol as diol component and polycarbonate (B) having 1,4-cyclohexanediethanol as diol component.

IT 403520-46-7P (liquid polycarbonate diol copolymer for manufacture of polyurethanes)

RN 403520-46-7 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-cyclohexanediethanol, 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

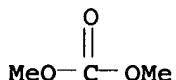
CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6

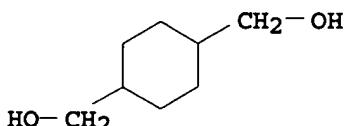
CMF C3 H6 O3



CM 3

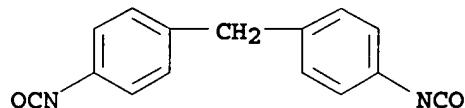
CRN 105-08-8

CMF C8 H16 O2



CM 4

CRN 101-68-8
 CMF C15 H10 N2 O2



IT 216691-97-3P
 (polycarbonate diol copolymer and its manufacture)

RN 216691-97-3 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-cyclohexanedimethanol and 1,6-hexanediol (9CI) (CA INDEX NAME)

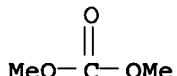
CM 1

CRN 629-11-8
 CMF C6 H14 O2

HO- (CH₂)₆ - OH

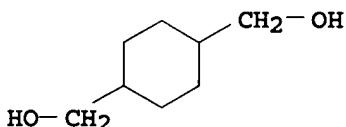
CM 2

CRN 616-38-6
 CMF C3 H6 O3



CM 3

CRN 105-08-8
 CMF C8 H16 O2



IC ICM C08G064-00
 ICS C08G064-20

CC 37-3 (Plastics Manufacture and Processing)

IT 403520-45-6P 403520-46-7P

(liquid polycarbonate diol copolymer for manufacture of polyurethanes)

IT 109359-28-6P 216691-97-3P

(polycarbonate diol copolymer and its manufacture)

L54 ANSWER 17 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002:84102 HCAPLUS
 DOCUMENT NUMBER: 136:135184
 TITLE: Manufacture of polycarbonate diols containing
 urethane forming catalysts
 INVENTOR(S): Kashiwagi, Koichi; Morikami, Atsushi
 PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|--------------|
| ----- | ---- | ----- | ----- | |
| ----- | | | | |
| JP 2002030143 | A2 | 20020131 | JP 2000-215547 | 2000 0717 |
| | | | | <-- |
| PRIORITY APPLN. INFO.: | | | JP 2000-215547 | 2000 0717 |
| | | | | <-- |

AB The polycarbonate diols are manufactured by heating left-over transesterification catalyst (A)-containing polycarbonate diols after their fresh formation with a triester of phosphorous acid which was used to stabilize the catalyst activity of the A in a urethane reaction later on. Thus, heating di-Me carbonate 427 with 1,6-hexanediol 560 and Ti(OBu)₄ 0.054 g at 100-200° with stirring while removing MeOH-dimethyl carbonate mixture for 5 h, further removing MeOH-dimethyl carbonate mixture at 100 mm-Hg, and reacting while stripping 1,6-hexanediol at 160-200° and 1-5 mm-Hg for 8 h gave a polycarbonate diol still containing Ti(OBu)₄, 100 g of which (Ti content 14 ppm, moisture content 700 ppm) was combined with 8.78 mg tri-Bu phosphite, and heated at 130° under N for 2 h with stirring to give a urethane reaction catalyst-containing polycarbonate diol with good reactivity with MDI in a urethane formation reaction.

IT 123256-09-7P, Dimethyl carbonate-1,6-hexanediol-MDI copolymer 391902-19-5P, 4,4'-Dicyclohexylmethane diisocyanate;dimethyl carbonate;1,6-hexanediol copolymer (manufacture of polycarbonate diols containing urethane forming catalysts and polyurethanes using them)

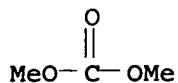
RN 123256-09-7 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

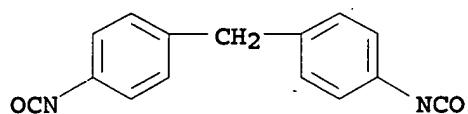
CM 1

CRN 629-11-8
CMF C6 H14 O2HO- (CH₂)₆ - OH

CM 2

CRN 616-38-6
CMF C3 H6 O3

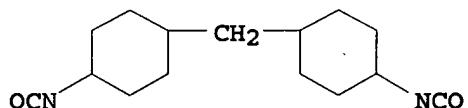
CM 3

CRN 101-68-8
CMF C15 H10 N2 O2

RN 391902-19-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and
1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

CM 1

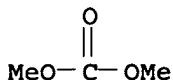
CRN 5124-30-1
CMF C15 H22 N2 O2

CM 2

CRN 629-11-8
CMF C6 H14 O2HO- (CH₂)₆ - OH

CM 3

CRN 616-38-6
CMF C3 H6 O3

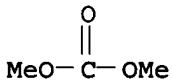


IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer
(polymeric monomers; manufacture of polycarbonate diols containing
urethane forming catalysts and polyurethanes using them)
RN 101325-00-2 HCPLUS
CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)
(CA INDEX NAME)

CM 1

CRN 629-11-8
CMF C6 H14 O2

CM 2

CRN 616-38-6
CMF C3 H6 O3

IC ICM C08G064-42
ICS C08G064-30; C08G018-44
CC 35-5 (Chemistry of Synthetic High Polymers)
IT 123256-09-7P, Dimethyl carbonate-1,6-hexanediol-MDI
copolymer 391902-19-5P, 4,4'-Dicyclohexylmethane
diisocyanate;dimethyl carbonate;1,6-hexanediol copolymer
(manufacture of polycarbonate diols containing urethane forming
catalysts and polyurethanes using them)
IT 24937-06-2P, Dimethyl carbonate-1,6-hexanediol copolymer sru
101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer
(polymeric monomers; manufacture of polycarbonate diols containing
urethane forming catalysts and polyurethanes using them)

L54 ANSWER 18 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:904319 HCPLUS
DOCUMENT NUMBER: 136:38082
TITLE: Production of aliphatic oligocarbonate diols
from dimethyl carbonate and their use
INVENTOR(S): Schlemenat, Andreas; Tillack, Joerg; Laue,
Joerg; Witossek, Herbert
PATENT ASSIGNEE(S): Bayer Aktiengesellschaft, Germany
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|------------------|--------------|
| WO 2001094444 | A1 | 20011213 | WO 2001-EP5966 | 2001 0525 |
| <-- | | | | |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| DE 10027907 | A1 | 20011213 | DE 2000-10027907 | 2000 0606 |
| <-- | | | | |
| CA 2411709 | AA | 20011213 | CA 2001-2411709 | 2001 0525 |
| <-- | | | | |
| EP 1292630 | A1 | 20030319 | EP 2001-955289 | 2001 0525 |
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| EP 1292630 | B1 | 20040407 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| JP 2003535936 | T2 | 20031202 | JP 2002-501991 | 2001 0525 |
| <-- | | | | |
| AT 263797 | E | 20040415 | AT 2001-955289 | 2001 0525 |
| <-- | | | | |
| PT 1292630 | T | 20040730 | PT 2001-955289 | 2001 0525 |
| <-- | | | | |
| ES 2218433 | T3 | 20041116 | ES 2001-1955289 | 2001 0525 |
| <-- | | | | |
| TW 575603 | B | 20040211 | TW 2001-90113635 | 2001 0606 |
| <-- | | | | |
| US 6833433 | B1 | 20041221 | US 2002-297542 | 2002 1204 |
| <-- | | | | |
| PRIORITY APPLN. INFO.: | | | DE 2000-10027907 | A |

2000
0606

<--
WO 2001-EP5966 W
2001
0525

<--

AB The invention relates to a novel method for producing aliphatic oligocarbonate diols from aliphatic diols by means of a multi-stage transesterification with Me₂CO₃ while almost completely utilizing the carbonate involved. The inventive method enables a particularly high-yield production of aliphatic oligocarbonate diols starting from easily accessible Me₂CO₃. A copolymer of Me₂CO₃, 1,6-hexanediol, and ϵ -caprolactone was produced in an example.

IT 74-82-8, Methane, uses 74-84-0, Ethane, uses 74-98-6, Propane, uses 106-97-8, Butane, uses 115-10-6, Dimethyl ether 1333-74-0, Hydrogen, uses 7440-37-1, Argon, uses 7727-37-9, Nitrogen, uses (blanketing gas; in multistage production of aliphatic oligocarbonate diols from di-Me carbonate)

RN 74-82-8 HCPLUS

CN Methane (8CI, 9CI) (CA INDEX NAME)

CH₄

RN 74-84-0 HCPLUS
CN Ethane (8CI, 9CI) (CA INDEX NAME)

H₃C—CH₃

RN 74-98-6 HCPLUS
CN Propane (8CI, 9CI) (CA INDEX NAME)

H₃C—CH₂—CH₃

RN 106-97-8 HCPLUS
CN Butane (8CI, 9CI) (CA INDEX NAME)

H₃C—CH₂—CH₂—CH₃

RN 115-10-6 HCPLUS
CN Methane, oxybis- (9CI) (CA INDEX NAME)

H₃C—O—CH₃

RN 1333-74-0 HCPLUS
CN Hydrogen (8CI, 9CI) (CA INDEX NAME)

H—H

RN 7440-37-1 HCPLUS
 CN Argon (8CI, 9CI) (CA INDEX NAME)

Ar

RN 7727-37-9 HCPLUS
 CN Nitrogen (8CI, 9CI) (CA INDEX NAME)

N
 |||
 N

IT 67-56-1P, Methanol, preparation
 (in multistage production of aliphatic oligocarbonate diols from di-Me carbonate)
 RN 67-56-1 HCPLUS
 CN Methanol (8CI, 9CI) (CA INDEX NAME)

H₃C—OH

IT 60-29-7, Diethyl ether, uses 109-66-0, Pentane,
 uses 110-54-3, Hexane, uses 110-82-7,
 Cyclohexane, uses 287-92-3, Cyclopentane
 1634-04-4, MTBE
 (inert fluid; in multistage production of aliphatic oligocarbonate diols from di-Me carbonate)
 RN 60-29-7 HCPLUS
 CN Ethane, 1,1'-oxybis- (9CI) (CA INDEX NAME)

H₃C—CH₂—O—CH₂—CH₃

RN 109-66-0 HCPLUS
 CN Pentane (8CI, 9CI) (CA INDEX NAME)

H₃C—CH₂—CH₂—CH₂—CH₃

RN 110-54-3 HCPLUS
 CN Hexane (8CI, 9CI) (CA INDEX NAME)

Me—(CH₂)₄—Me

RN 110-82-7 HCPLUS
 CN Cyclohexane (8CI, 9CI) (CA INDEX NAME)



RN 287-92-3 HCPLUS
 CN Cyclopentane (8CI, 9CI) (CA INDEX NAME)



RN 1634-04-4 HCPLUS
 CN Propane, 2-methoxy-2-methyl- (9CI) (CA INDEX NAME)

t-Bu-O-Me

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer
 171926-77-5P, Dimethyl carbonate-polytetramethylene glycol
 copolymer 282534-15-0P, ϵ -Caprolactone-dimethyl
 carbonate-1,6-hexanediol copolymer 380307-08-4P,
 ϵ -Caprolactone-dimethyl carbonate-1,5-pentanediol
 copolymer
 (multistage production of aliphatic oligocarbonate diols from di-Me
 carbonate)

RN 101325-00-2 HCPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)
 (CA INDEX NAME)

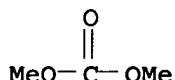
CM 1

CRN 629-11-8
 CMF C6 H14 O2

HO-(CH₂)₆-OH

CM 2

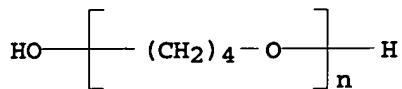
CRN 616-38-6
 CMF C3 H6 O3



RN 171926-77-5 HCPLUS
 CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -
 hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA INDEX NAME)

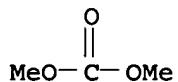
CM 1

CRN 25190-06-1
 CMF (C₄ H₈ O)_n H₂ O
 CCI PMS



CM 2

CRN 616-38-6
 CMF C₃ H₆ O₃



RN 282534-15-0 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and
 2-oxepanone (9CI) (CA INDEX NAME)

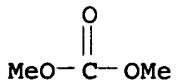
CM 1

CRN 629-11-8
 CMF C₆ H₁₄ O₂



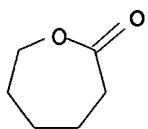
CM 2

CRN 616-38-6
 CMF C₃ H₆ O₃



CM 3

CRN 502-44-3
 CMF C₆ H₁₀ O₂



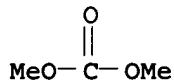
RN 380307-08-4 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 2-oxepanone and
1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6

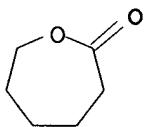
CMF C3 H6 O3



CM 2

CRN 502-44-3

CMF C6 H10 O2



CM 3

CRN 111-29-5

CMF C5 H12 O2

HO- (CH₂)₅ - OH

IC ICM C08G064-30

CC 35-5 (Chemistry of Synthetic High Polymers)

IT Natural gas, uses

(in multistage production of aliphatic oligocarbonate diols from di-Me carbonate)

IT 74-82-8, Methane, uses 74-84-0, Ethane, uses
74-98-6, Propane, uses 106-97-8, Butane, uses
115-10-6, Dimethyl ether 1333-74-0, Hydrogen,
uses 7440-37-1, Argon, uses 7727-37-9,
Nitrogen, uses

(blanketing gas; in multistage production of aliphatic oligocarbonate diols from di-Me carbonate)

IT 67-56-1P, Methanol, preparation

(in multistage production of aliphatic oligocarbonate diols from di-Me carbonate)

IT 60-29-7, Diethyl ether, uses 109-66-0, Pentane, uses 110-54-3, Hexane, uses 110-82-7, Cyclohexane, uses 287-92-3, Cyclopentane 1634-04-4, MTBE
 (inert fluid; in multistage production of aliphatic oligocarbonate diols from di-Me carbonate)

IT 24937-06-2P, Dimethyl carbonate-1,6-hexanediol copolymer, SRU 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer 171926-77-5P, Dimethyl carbonate-polytetramethylene glycol copolymer 282534-15-0P, ϵ -Caprolactone-dimethyl carbonate-1,6-hexanediol copolymer 380307-08-4P, ϵ -Caprolactone-dimethyl carbonate-1,5-pentanediol copolymer
 (multistage production of aliphatic oligocarbonate diols from di-Me carbonate)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 19 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:842327 HCAPLUS

DOCUMENT NUMBER: 135:372481

TITLE: High-rigidity and high-elongation segmented polyurethanes

INVENTOR(S): Tanaka, Hideo; Kunimura, Masaru

PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| JP 2001323042 | A2 | 20011120 | JP 2000-144408 | 2000 0517 |

PRIORITY APPLN. INFO.: JP 2000-144408

2000
0517

<--

AB Polyurethanes are prepared from polycarbonate diols derived from aliphatic hydrocarbon diols containing 1,12-dodecanediol (I) and carbonates, chain extenders, and diisocyanates. Thus, a polyurethane was prepared from di-Me carbonate-I copolymer, 1,4-butanediol, and 4,4'-diphenylmethane diisocyanate.

IT 374089-27-7P, 1,4-Butanediol-dimethyl carbonate-1,12-dodecanediol-4,4'-diphenylmethane diisocyanate block copolymer (high-rigidity and high-elongation segmented polyurethanes)

RN 374089-27-7 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, 1,12-dodecanediol and 1,1'-methylenebis[4-isocyanatobenzene], block (9CI) (CA INDEX NAME)

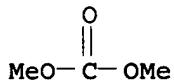
CM 1

CRN 5675-51-4
CMF C12 H26 O2

HO—(CH₂)₁₂—OH

CM 2

CRN 616-38-6
CMF C3 H6 O3



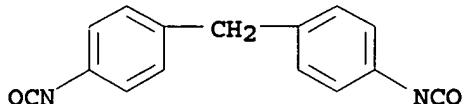
CM 3

CRN 110-63-4
CMF C4 H10 O2

HO—(CH₂)₄—OH

CM 4

CRN 101-68-8
CMF C15 H10 N2 O2



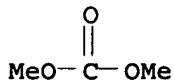
IT 374089-26-6P, Dimethyl carbonate-1,12-dodecanediol copolymer
(high-rigidity and high-elongation segmented polyurethanes)
RN 374089-26-6 HCAPLUS
CN Carbonic acid, dimethyl ester, polymer with 1,12-dodecanediol (9CI) (CA INDEX NAME)

CM 1

CRN 5675-51-4
CMF C12 H26 O2

HO—(CH₂)₁₂—OH

CM 2

CRN 616-38-6
CMF C3 H6 O3

IC ICM C08G018-44
 CC 37-3 (Plastics Manufacture and Processing)
 IT 374089-27-7P, 1,4-Butanediol-dimethyl carbonate-1,12-dodecanediol-4,4'-diphenylmethane diisocyanate block copolymer (high-rigidity and high-elongation segmented polyurethanes)
 IT 66837-13-6P, Poly(oxycarbonyloxy-1,12-dodecanediyl)
 374089-26-6P, Dimethyl carbonate-1,12-dodecanediol copolymer (high-rigidity and high-elongation segmented polyurethanes)

L54 ANSWER 20 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:718091 HCAPLUS
 DOCUMENT NUMBER: 135:257919
 TITLE: Manufacture of polycarbonate diols having reduced discoloration
 INVENTOR(S): Kashiwagi, Koichi; Doi, Takashi; Kaneko, Takayoshi; Takiguchi, Suzuo
 PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------------|
| JP 2001270938 | A2 | 20011002 | JP 2001-11790 | 2001 0119 |
| JP 3724561 | B2 | 20051207 | | <-- |
| ES 2192920 | A1 | 20031016 | ES 2001-125 | 2001 0119 |
| ES 2192920 | B2 | 20040616 | | <-- |
| PRIORITY APPLN. INFO.: | | | JP 2000-12362 | A 2000 0121 |

AB The polycarbonate diols, useful for raw materials for polyurethanes, coatings, adhesives, etc., are manufactured by transesterification of di-Me carbonate with aliphatic dihydroxy compds. at molar ratio of $(n + 1)/n$ 1.31-1.58 ($n = 1.72-3.23$; Mn of resulting polycarbonate diol prepolymers) in the presence of catalysts while discharging MeOH and di-Me carbonate to give prepolymers (molar content of alkyl end group 5%) and

Polycondensation of the prepolymers in the presence of catalysts while discharging aliphatic dihydroxy compds. Thus, NaOMe-treated di-Me carbonate was transesterified with 1,6-hexanediol in the presence of Ti(OBu)₄ and condensed to give OH-terminated polycarbonate showing APHA 15.

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer (manufacture of polycarbonate diols having reduced discoloration)
 RN 101325-00-2 HCPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)
 (CA INDEX NAME)

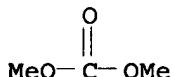
CM 1

CRN 629-11-8
 CMF C6 H14 O2



CM 2

CRN 616-38-6
 CMF C3 H6 O3



IC ICM C08G064-30
 CC 37-3 (Plastics Manufacture and Processing)
 IT 24937-06-2P, Dimethyl carbonate-1,6-hexanediol copolymer, sru
 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer
 (manufacture of polycarbonate diols having reduced discoloration)

L54 ANSWER 21 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:691786 HCPLUS
 DOCUMENT NUMBER: 135:242655
 TITLE: Preparation of polycarbonate diols with a high
 molecular weight by two reaction steps
 INVENTOR(S): Mizia, Franco; Rivetti, Franco
 PATENT ASSIGNEE(S): Enichem S.P.A., Italy; Polimeri Europa S.P.A.
 SOURCE: Eur. Pat. Appl., 10 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|--------------|
| EP 1134248 | A1 | 20010919 | EP 2001-103237 | 2001 0212 |
| EP 1134248 | B1 | 20050803 | | <-- |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, LT, LV, FI, RO
 IT 2000MI0549 A1 20010917 IT 2000-MI549

2000
 0317

IT 1318397 B1 20030825
 AT 301148 E 20050815 AT 2001-103237

2001
 0212

US 2001047073 A1 20011129 US 2001-797593
 <--

2001
 0305

US 6384178 B2 20020507
 JP 2001261811 A2 20010926 JP 2001-79254

2001
 0319

PRIORITY APPLN. INFO.: IT 2000-MI549

A
 2000
 0317

AB The polycarbonate diol with mol. weight >2000, useful in preparing thermoelastomeric polyurethane for coatings, adhesives and seals, is prepared by (a) reacting an alkyl carbonate (e.g., di-Me carbonate) with an aliphatic diol (e.g., 1,6-hexanediol) in the presence of a transesterification catalyst (e.g., tetraisopropyl titanate) to give a mixture containing a polycarbonate diol with mol. weight 500-2000; and (b) reacting the polycarbonate diol with an aryl carbonate (e.g., di-Ph carbonate).

IT 360069-40-5P
 (preparation of polycarbonate diols with a high mol. weight by two reaction steps)

RN 360069-40-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with diphenyl carbonate and 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

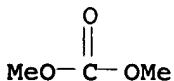
CMF C6 H14 O2

HO—(CH₂)₆—OH

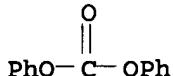
CM 2

CRN 616-38-6

CMF C3 H6 O3



CM 3

CRN 102-09-0
CMF C13 H10 O3

IC ICM C08G064-30
 CC 35-2 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 38, 39, 42
 IT 360069-40-5P
 (preparation of polycarbonate diols with a high mol. weight by two reaction steps)
 REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 22 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:319505 HCAPLUS
 DOCUMENT NUMBER: 134:326932
 TITLE: Thermoset polyurethane resins based on polycyclic polyisocyanates and method for the production thereof
 INVENTOR(S): Haseyama, Ryuuji; Yoshida, Yoshio; Tsutsui, Tomoki; Koga, Nobuhito; Sasaoka, Kunio; Nishiguchi, Daisuke; Itoh, Hisato; Sakai, Seijiro
 PATENT ASSIGNEE(S): Mitsui Chemicals, Inc., Japan
 SOURCE: Eur. Pat. Appl., 50 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|-----------------|--------------|
| EP 1095956 | A2 | 20010502 | EP 2000-309536 | 2000 1030 |
| <-- | | | | |
| EP 1095956 | A3 | 20020102 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| JP 2001270929 | A2 | 20011002 | JP 2000-319511 | 2000 1019 |
| <-- | | | | |
| CN 1308092 | A | 20010815 | CN 2000-132870 | 2000 1025 |
| <-- | | | | |
| BR 2000007115 | A | 20011002 | BR 2000-7115 | 2000 |

| | | | |
|------------------------|----------------|---|------|
| PRIORITY APPLN. INFO.: | JP 1999-306524 | A | 1026 |
| | | | 1999 |
| | | | 1028 |
| | JP 1999-307883 | A | 1999 |
| | | | 1029 |
| | JP 1999-307884 | A | 1999 |
| | | | 1029 |
| | JP 2000-11114 | A | 2000 |
| | | | 0120 |
| | JP 2000-11115 | A | 2000 |
| | | | 0120 |
| | | | <-- |

AB Thermoset polyurethanes having (i) Shore A hardness of 50 to 85, (ii) flexural modulus of 8 to 80 MPa, (iii) elongation of 130 to 600%, and (iv) no melt mark is observed after exposure to an atmospheric of 110° for 1000 h are typically prepared by reaction of polyether, polyester, and/or polycarbonate polyols and polycyclic aliphatic polyisocyanates (e.g., 2,5-diisocyanatomethyl bicyclo[2.2.1]heptane).

IT 101325-00-2DP, Dimethylcarbonate-1,6-hexanediol copolymer, polyurethanes 146789-33-5DP, 1,4-Butanediol-dimethylcarbonate copolymer, polyurethanes (thermoset; thermoset polyurethane resins based on polycyclic polyisocyanates and method for the production thereof)

RN 101325-00-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

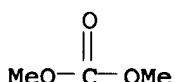
CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6

CMF C3 H6 O3

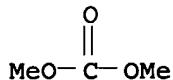


RN 146789-33-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol (9CI)
(CA INDEX NAME)

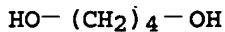
CM 1

CRN 616-38-6
CMF C3 H6 O3



CM 2

CRN 110-63-4
CMF C4 H10 O2



IC ICM C08G018-10
ICS C08G018-38; C08G018-40; C08G018-75
CC 35-5 (Chemistry of Synthetic High Polymers)
IT 107-21-1DP, Ethylene glycol, polyurethanes 107-88-0DP,
1,3-Butanediol, polyurethanes 110-63-4DP, 1,4-Butanediol,
polyurethanes, preparation 629-11-8DP, 1,6-Hexanediol,
polyurethanes 9003-11-6DP, Ethylene oxide-propylene oxide
copolymer, polyurethanes 9082-00-2DP, Ethylene oxide-propylene
oxide copolymer glycerol ether, polyurethanes 24936-97-8DP,
Adipic acid-1,4-butanediol copolymer, sru, polyurethanes
24937-06-2DP, Dimethylcarbonate-1,6-hexanediol copolymer, sru,
polyurethanes 25103-87-1DP, Adipic acid-1,4-butanediol
copolymer, polyurethanes 25805-40-7DP, 1,4-Butanediol-
dimethylcarbonate copolymer, sru, polyurethanes 27925-07-1DP,
Adipic acid-neopentyl glycol copolymer, polyurethanes
28039-87-4DP, Adipic acid-neopentyl glycol copolymer, sru,
polyurethanes 32912-51-9DP, isocyanurates, polyurethanes
37280-83-4DP, Ethylene oxide-propylene oxide copolymer
triethanolamine ether, polyurethanes 56449-05-9DP, Ethylene
oxide-propylene oxide copolymer sorbitol ether, polyurethanes
58205-99-5DP, Ethyleneoxide-propylene oxide copolymer
pentaerythritol ether, polyurethanes 101325-00-2DP,
Dimethylcarbonate-1,6-hexanediol copolymer, polyurethanes
146789-33-5DP, 1,4-Butanediol-dimethylcarbonate copolymer,
polyurethanes
(thermoset; thermoset polyurethane resins based on polycyclic
polyisocyanates and method for the production thereof)

L54 ANSWER 23 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:152328 HCAPLUS
DOCUMENT NUMBER: 134:193913
TITLE: Branching of polyamides with esters of
carboxylic acids
INVENTOR(S): Miroslav, Marek; Bruder, Friedrich; Douzinas,
Konstadinos
PATENT ASSIGNEE(S): Bayer Aktiengesellschaft, Germany

SOURCE: Eur. Pat. Appl., 14 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|--------------|
| EP 1078949 | A1 | 20010228 | EP 1999-116725 | 1999 0826 |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
MC, PT, IE, SI, LT, LV, FI, RO

| | | | | |
|------------|----|----------|----------------|--------------|
| US 6498217 | B1 | 20021224 | US 2000-635605 | 2000 0810 |
|------------|----|----------|----------------|--------------|

| | | | | |
|------------|----|----------|-----------------|--------------|
| CA 2316646 | AA | 20010226 | CA 2000-2316646 | 2000 0824 |
|------------|----|----------|-----------------|--------------|

| | | | |
|------------------------|----------------|----|--------------|
| PRIORITY APPLN. INFO.: | EP 1999-116725 | A1 | 1999 0826 |
|------------------------|----------------|----|--------------|

AB The present invention is related to branching of high-mol.-weight polyamides using aliphatic or aromatic esters of carbonic acid. Di-Ph carbonate and polyamide 6,6 were reacted to give a branched polyamide.

IT 327986-14-1P, Adipic acid-dimethyl carbonate-hexamethylenediamine copolymer
(branching of polyamides with esters of carboxylic acids)

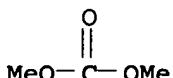
RN 327986-14-1 HCAPLUS

CN Hexanedioic acid, polymer with dimethyl carbonate and 1,6-hexanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6

CMF C3 H6 O3



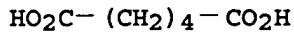
CM 2

CRN 124-09-4

CMF C6 H16 N2



CM 3

CRN 124-04-9
CMF C6 H10 O4

IC ICM C08G083-00
 ICS C08G069-48; C08G069-04
 CC 35-8 (Chemistry of Synthetic High Polymers)
 IT 327986-13-0P 327986-14-1P, Adipic acid-dimethyl
 carbonate-hexamethylenediamine copolymer 327986-15-2P, Adipic
 acid-diphenyl carbonate-hexamethylenediamine copolymer
 327986-16-3P 328067-86-3P
 (branching of polyamides with esters of carboxylic acids)
 REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L54 ANSWER 24 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:143675 HCAPLUS
 DOCUMENT NUMBER: 134:194102
 TITLE: Manufacture of polycarbonate diols for
 preparation of polyurethanes
 INVENTOR(S): Matsuo, Mitsuhiro; Yokota, Hiroyoshi;
 Nakamura, Teruaki
 PATENT ASSIGNEE(S): Nippon Polyurethane Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|--------------|
| JP 2001055437 | A2 | 20010227 | JP 1999-234533 | 1999 0820 |
| JP 3467769 | B2 | 20031117 | JP 1999-234533 | 1999 0820 |

AB The polycarbonate diols are manufactured by reaction of polyoxytetramethylene diols (Mn 100-400) with low-mol.-weight carbonates chosen from alkylene carbonates, dialkylcarbonates, and diarylcarbonates. Thus, a polycarbonate diol prepared from di-Et carbonate and polytetramethylene glycol showed good compatibility with other diols. The polycarbonate diol was reacted with MDI and 1,4-butanediol to give a polyurethane with good mech. properties at low temps.
 IT 171926-77-5P, Dimethyl carbonate-polytetramethylene glycol copolymer
 (manufacture of polycarbonate diols for preparation of polyurethanes with

good mech. properties)

RN 171926-77-5 HCAPLUS

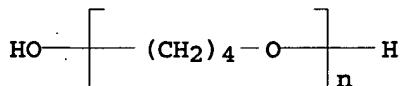
CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C₄ H₈ O)_n H₂ O

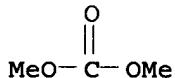
CCI PMS



CM 2

CRN 616-38-6

CMF C₃ H₆ O₃



IT 128724-63-0P

(manufacture of polycarbonate diols for preparation of polyurethanes with good mech. properties)

RN 128724-63-0 HCAPLUS

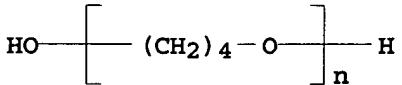
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) and 1,1'-methylenebis[4-isocyanatobenzene], block (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C₄ H₈ O)_n H₂ O

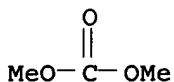
CCI PMS



CM 2

CRN 616-38-6

CMF C₃ H₆ O₃



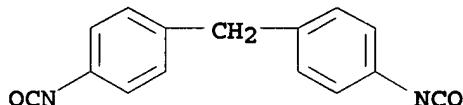
CM 3

CRN 110-63-4
 CMF C4 H10 O2



CM 4

CRN 101-68-8
 CMF C15 H10 N2 O2



IC ICM C08G064-30
 ICS C08G018-44

CC 37-3 (Plastics Manufacture and Processing)
 IT 67184-92-3P, Diphenyl carbonate-polytetramethylene glycol copolymer 92538-66-4P 125671-94-5P, Ethylene carbonate-polytetramethylene glycol copolymer 171926-77-5P, Dimethyl carbonate-polytetramethylene glycol copolymer (manufacture of polycarbonate diols for preparation of polyurethanes with good mech. properties)
 IT 92538-67-5P 128724-63-0P 327619-78-3P 327619-79-4P (manufacture of polycarbonate diols for preparation of polyurethanes with good mech. properties)

LS4 ANSWER 25 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:143666 HCAPLUS

DOCUMENT NUMBER: 134:194302

TITLE: Allyl-terminated polyester oligomers, their manufactures, and their cured optical materials

INVENTOR(S): Tanaka, Katsuyoshi; Kato, Kenji

PATENT ASSIGNEE(S): Nippon Oil and Fats Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|-------|-------|-----------------|-------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |

JP 2001055416

A2 20010227

JP 1999-232192

1999
0819

PRIORITY APPLN. INFO.:

JP 1999-232192

1999
0819

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AB The oligomers, useful for lenses, having ≥ 1 allyl-terminated $Z_1[(R_1Z_2)m(R_2Z_3)n]g$ ($Z_1-Z_3 = OCOACO_2$, OCO_2 ; A = phenylene, naphthalene, biphenylene; $R_1, R_2 = C_2-30$ dihydric alc. residue; $m, n = 0-100$; $g = 1-100$) are manufactured by reaction of (a) allyl alc. (I) esters and diols or (b) lower alc. esters, diols, and I in specific mol ratio. Thus, a transesterification product of diallyl isophthalate 1, diallyl carbonate 0.1, and propylene glycol 0.5 mol was cured to give a lens with sp. gr. 1.26, refractive index (JIS K 7105) 1.562, reduced shrinkage, and good impact resistance.

IT 327602-64-2P, Allyl alcohol-dimethyl carbonate-dimethyl isophthalate-propylene glycol copolymer
(manufacture of allyl-terminated polyester oligomers for optical materials)

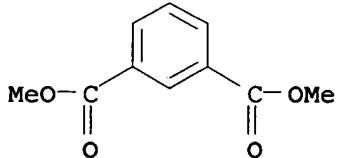
RN 327602-64-2 HCPLUS

CN 1,3-Benzenedicarboxylic acid, dimethyl ester, polymer with dimethyl carbonate, 1,2-propanediol and 2-propen-1-ol (9CI) (CA INDEX NAME)

CM 1

CRN 1459-93-4

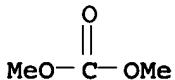
CMF C10 H10 O4



CM 2

CRN 616-38-6

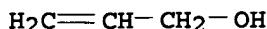
CMF C3 H6 O3



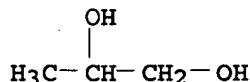
CM 3

CRN 107-18-6

CMF C3 H6 O



CM 4

CRN 57-55-6
CMF C3 H8 O2

IC ICM C08F018-14
 ICS C08F018-16; G02B001-04
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 73
 IT 327602-60-8P, Diallyl carbonate-diallyl isophthalate-propylene glycol copolymer 327602-61-9P, Diallyl carbonate-diallyl terephthalate-propylene glycol copolymer 327602-62-0P, 1,3-Butanediol-diallyl carbonate-diallyl isophthalate copolymer 327602-63-1P 327602-64-2P, Allyl alcohol-dimethyl carbonate-dimethyl isophthalate-propylene glycol copolymer (manufacture of allyl-terminated polyester oligomers for optical materials)

L54 ANSWER 26 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:28520 HCAPLUS

DOCUMENT NUMBER: 134:101610

TITLE: Manufacture of polyester carbonates as lubricants for synthetic fibers

INVENTOR(S): Birnbrich, Paul; Becker, Wolfgang; Bialas, Norbert; Tenhaef, Rolf; Mathis, Raymond

PATENT ASSIGNEE(S): Henkel K.-G.a.A., Germany

SOURCE: Ger. Offen., 10 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|------------------|--------------|
| DE 19932292 | A1 | 20010111 | DE 1999-19932292 | 1999 0710 |
| WO 2001004176 | A1 | 20010118 | WO 2000-EP6160 | 2000 0701 |
| EP 1194470 | A1 | 20020410 | EP 2000-943963 | 2000 0701 |

W: BR, CN, KR, MX, TR, US

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,
MC, NL, PT, SE

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
MC, PT, IE, FI

TR 200103547 T2 20020521 TR 2001-200103547

2000
0701

US 6660826 B1 20031209 US 2002-31099

2002
0523

PRIORITY APPLN. INFO.: DE 1999-19932292 A

1999
0710

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WO 2000-EP6160 W

2000
0701

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AB H2O-soluble polyester carbonates $R_1CO(R_2O)_n[CO_2(R_3O)_1]_kCO(OR_4)_mO_2CR_5$ [R1, R5 = (un)saturated C6-21 alkyl; R2, R4 = C2-4 alkyl; R3 = (un)saturated C1-22 hydrocarbyl; k = 0, 1-50; l = 1-300; m = 2-59; n = 2-50], useful as lubricants for synthetic fibers, were manufactured by reaction of alkoxylated carboxylic acids $R_6CO_2(RO)_aH$ (R6 = C6-21 alkyl; a = 2-50) with diols HOZOH (Z = C1-22 alkylene) and dialkyl carbonates $R_8OCO_2R_9$ (R8, R9 = Me, Et). For example, a mixture of ethoxylated (7 EO) lauric acid 779.1, polyethylene glycol 300 and (MeO)2CO 236.3 g was heated at 140° in the presence of 8.77 g NaOMe (30% solution in MeOH) with removal of MeOH to give a title polymer having OH number 27 and acid number 0.5. The polymer gave clear 40% solns. in H2O and was performed well as lubricant for polyamide 6 fibers.

IT 319459-81-9P, Dimethyl carbonate-polyethylene glycol copolymer dilaurate
(manufacture of polyester carbonates as lubricant for synthetic fibers)

RN 319459-81-9 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -hydroxypoly(oxy-1,2-ethanediyl), didodecanoate (9CI) (CA INDEX NAME)

CM 1

CRN 143-07-7

CMF C12 H24 O2

$HO_2C-(CH_2)_{10}-Me$

CM 2

CRN 137369-83-6

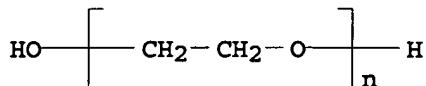
CMF (C3 H6 O3 . (C2 H4 O)n H2 O)x

CCI PMS

CM 3

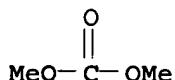
CRN 25322-68-3

CMF (C₂ H₄ O)_n H₂ O
 CCI PMS



CM 4

CRN 616-38-6
 CMF C₃ H₆ O₃



IC ICM C08L069-00
 ICS C08L067-00; D06M015-263
 CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 40
 IT 616-38-6DP, Dimethyl carbonate, polymers with polyethylene glycol and ethoxylated coco fatty acids 9003-11-6DP, Ethylene glycol-Propylene glycol copolymer, coco fatty acid esters, polymers with polyethylene glycol and di-Me carbonate 25322-68-3DP, Polyethylene glycol, polymers with di-Me carbonate and ethoxylated coco fatty acids 319459-81-9P, Dimethyl carbonate-polyethylene glycol copolymer dilaurate
 (manufacture of polyester carbonates as lubricant for synthetic fibers)

L54 ANSWER 27 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:889424 HCPLUS

DOCUMENT NUMBER: 134:44553

TITLE: Polycarbonate polyols, polycarbonate polyol (meth)acrylates, and their application to solid polymer electrolytes

INVENTOR(S): Ishitoku, Takeshi; Nogi, Hidenobu

PATENT ASSIGNEE(S): Mitsui Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| JP 2000351843 | A2 | 20001219 | JP 1999-163632 | 1999 0610 |
| <-- | | | | |
| JP 1999-163632 | | | | 1999 0610 |

PRIORITY APPLN. INFO.:

<--

AB The polycarbonate polyols are polycondensation products of HO(CH₂CH₂O)_nH (n = 2-10), HOROH (R = linear, branched, or cyclic C₄-20 alkylene which may have ether linkages, excluding oxyethylene), and carbonyl compds. selected from carbonate diesters, COCl₂, and chloroformate esters. (meth)acrylate esters of the polycarbonate polyols, polymers of the polycarbonate polyol (meth)acrylates, and solid polymer electrolytes containing Group Ia metals in the polycarbonate (meth)acrylates are also claimed. The polymer electrolytes are useful for primary and secondary batteries, capacitors, etc. Thus, a solid polymer electrolyte from LiPF₆ and diethylene glycol-1,6-hexanediol-dimethyl carbonate copolymer acrylate showed ionic conductivity 3.7 mS/cm.

IT 312582-95-9DP, Diethylene glycol-dimethyl carbonate-1,6-hexanediol copolymer acrylate, lithium complexes
 312582-97-1DP, 1,4-Butanediol-diethylene glycol-dimethyl carbonate copolymer acrylate, lithium complexes
 312582-99-3DP, Diethylene glycol-dimethyl carbonate-3-methyl-1,5-pentanediol copolymer acrylate, lithium complexes 312583-01-0DP, Diethylene glycol-dimethyl carbonate-dipropylene glycol copolymer acrylate, lithium complexes (preparation of polycarbonate polyol (meth)acrylates for solid polymer electrolytes)

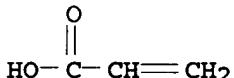
RN 312582-95-9 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 2,2'-oxybis[ethanol], 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C₃ H₄ O₂



CM 2

CRN 312582-94-8

CMF (C₆ H₁₄ O₂ . C₄ H₁₀ O₃ . C₃ H₆ O₃)_x

CCI PMS

CM 3

CRN 629-11-8

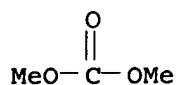
CMF C₆ H₁₄ O₂



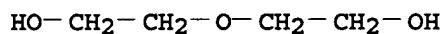
CM 4

CRN 616-38-6

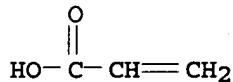
CMF C₃ H₆ O₃



CM 5

CRN 111-46-6
CMF C4 H10 O3RN 312582-97-1 HCAPLUS
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol and
2,2'-oxybis[ethanol], 2-propenoate (9CI) (CA INDEX NAME)

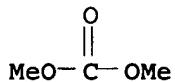
CM 1

CRN 79-10-7
CMF C3 H4 O2

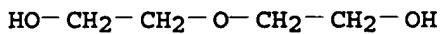
CM 2

CRN 312582-96-0
CMF (C4 H10 O3 . C4 H10 O2 . C3 H6 O3)x
CCI PMS

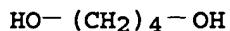
CM 3

CRN 616-38-6
CMF C3 H6 O3

CM 4

CRN 111-46-6
CMF C4 H10 O3

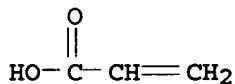
CM 5

CRN 110-63-4
CMF C4 H10 O2

RN 312582-99-3 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 3-methyl-1,5-pentanediol and 2,2'-oxybis[ethanol], 2-propenoate (9CI) (CA INDEX NAME)

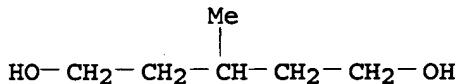
CM 1

CRN 79-10-7
CMF C3 H4 O2

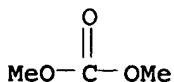
CM 2

CRN 312582-98-2
CMF (C₆ H₁₄ O₂ . C₄ H₁₀ O₃ . C₃ H₆ O₃)_x
CCI PMS

CM 3

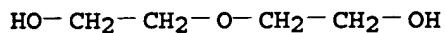
CRN 4457-71-0
CMF C₆ H₁₄ O₂

CM 4

CRN 616-38-6
CMF C₃ H₆ O₃

CM 5

CRN 111-46-6
CMF C₄ H₁₀ O₃



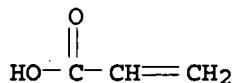
RN 312583-01-0 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 2,2'-oxybis[ethanol] and oxybis[propanol], 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



CM 2

CRN 312583-00-9

CMF (C6 H14 O3 . C4 H10 O3 . C3 H6 O3)x

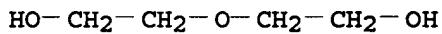
CCI PMS

CM 3

CRN 25265-71-8

CMF C6 H14 O3

CCI IDS

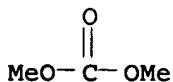


2 (D1-Me)

CM 4

CRN 616-38-6

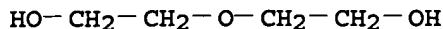
CMF C3 H6 O3



CM 5

CRN 111-46-6

CMF C4 H10 O3



IC ICM C08G064-30
 ICS C08F299-02; C08G064-02; C08G064-22; C08G064-42; H01B001-06;
 H01M006-18; H01M010-40
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 35, 76
 IT 7439-93-2DP, Lithium, polycarbonate polyol (meth)acrylate
 complexes, uses 21324-40-3DP, Lithium hexafluorophosphate,
 polycarbonate polyol (meth)acrylate complexes
 312582-95-9DP, Diethylene glycol-dimethyl
 carbonate-1,6-hexanediol copolymer acrylate, lithium complexes
 312582-97-1DP, 1,4-Butanediol-diethylene glycol-dimethyl
 carbonate copolymer acrylate, lithium complexes
 312582-99-3DP, Diethylene glycol-dimethyl
 carbonate-3-methyl-1,5-pentanediol copolymer acrylate, lithium
 complexes 312583-01-0DP, Diethylene glycol-dimethyl
 carbonate-dipropylene glycol copolymer acrylate, lithium complexes
 (preparation of polycarbonate polyol (meth)acrylates for solid
 polymer electrolytes)

L54 ANSWER 28 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:823077 HCAPLUS
 DOCUMENT NUMBER: 134:12455
 TITLE: Polymer solid electrolyte
 INVENTOR(S): Ishitoku, Takeshi; Shindo, Masaharu
 PATENT ASSIGNEE(S): Mitsui Chemical Industry Co., Ltd., Japan;
 Yuasa Battery Co., Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| JP 2000322931 | A2 | 20001124 | JP 1999-129216 | 1999 0510 |

PRIORITY APPLN. INFO.: JP 1999-129216
 1999
0510

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AB The invention relates to a polymer solid electrolyte, suited for
 use in making batteries and capacitors, thus the electrolyte
 comprises the salt formed between Group IA metal element and
 poly(diethylene glycol carbonate)diacrylate or its copolymers.

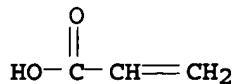
IT 303190-02-5DP, salts with lithium hexafluorophosphate
 303190-02-5P
 (polymer solid electrolyte.)

RN 303190-02-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 2,2'-oxybis[ethanol],
 di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
 CMF C3 H4 O2

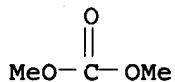


CM 2

CRN 197247-08-8
 CMF (C4 H10 O3 . C3 H6 O3)x
 CCI PMS

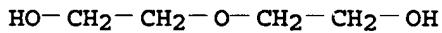
CM 3

CRN 616-38-6
 CMF C3 H6 O3



CM 4

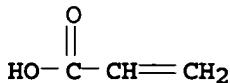
CRN 111-46-6
 CMF C4 H10 O3



RN 303190-02-5 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 2,2'-oxybis[ethanol],
 di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
 CMF C3 H4 O2

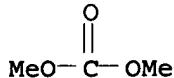


CM 2

CRN 197247-08-8
 CMF (C4 H10 O3 . C3 H6 O3)x
 CCI PMS

CM 3

CRN 616-38-6
CMF C3 H6 O3



CM 4

CRN 111-46-6
CMF C4 H10 O3

HO-CH₂-CH₂-O-CH₂-CH₂-OH

IC ICM H01B001-06
ICS C08K003-24; C08L033-14; C08L055-00; H01G009-028; H01M006-18;
H01M010-40; C08F020-28; C08F290-06; C08G063-64
CC 76-10 (Electric Phenomena)
Section cross-reference(s): 52
IT 29011-12-9P, Diethylene glycol-dimethylcarbonate copolymer, SRU
66536-64-9P 197247-08-8P, Diethylene glycol-dimethylcarbonate
copolymer 303190-02-5DP, salts with lithium
hexafluorophosphate 303190-02-5P
(polymer solid electrolyte.)

L54 ANSWER 29 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:761990 HCPLUS
DOCUMENT NUMBER: 133:337716
TITLE: Polycarbonate compositions, their manufacture,
and uses in solid polymer electrolytes
INVENTOR(S): Ishitoku, Takeshi; Nogi, Hidenobu
PATENT ASSIGNEE(S): Mitsui Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| JP 2000302861 | A2 | 20001031 | JP 1999-112870 | 1999 0420 |

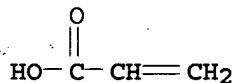
PRIORITY APPLN. INFO.: JP 1999-112870
1999
0420

AB The compns. contain polycarbonates R₁O(XOCO₂)_nXOR₂ [X = C₂-20
hydrocarbylene which may contain double bonds, aromatic rings, and
ether linkages; a part of R₁ and R₂ is (meth)acryloyl and the rest
of R₁ and R₂ is alkoxy carbonyl, phenoxy carbonyl, and/or H; n (average

number) = 1-1000]. The compns. are prepared by catalytic transesterification of polycarbonates with C1-4 alkyl (meth)acrylates. The solid polymer electrolytes contain polymerization products of the compns. above and Group Ia metal salts. The solid electrolytes, useful for batteries, capacitors, etc., show high ionic conductivity, electrochem. stability, and flexibility.

IT 303190-02-5P
 (manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)
 RN 303190-02-5 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 2,2'-oxybis[ethanol], di-2-propenoate (9CI) (CA INDEX NAME)

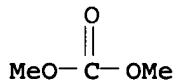
CM 1

CRN 79-10-7
 CMF C3 H4 O2

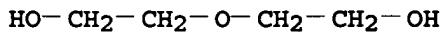
CM 2

CRN 197247-08-8
 CMF (C4 H10 O3 . C3 H6 O3)x
 CCI PMS

CM 3

CRN 616-38-6
 CMF C3 H6 O3

CM 4

CRN 111-46-6
 CMF C4 H10 O3

IC ICM C08G064-42
 ICS C08K003-10; C08L069-00; H01B001-06; H01G009-025; H01G009-028;
 H01M006-18; H01M010-40
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 35, 38, 76
 IT 66536-64-9P 303190-01-4P 303190-02-5P
 (manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)

L54 ANSWER 30 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2000:666800 HCAPLUS
 DOCUMENT NUMBER: 133:253966
 TITLE: High solids epoxy, melamine and isocyanate
 clear coat compositions
 INVENTOR(S): Nagata, Isao; Uhlianuk, Peter William;
 Quashie, Sape Kewsi; White, Donald A.
 PATENT ASSIGNEE(S): E. I. Du Pont de Nemours & Co., USA
 SOURCE: PCT Int. Appl., 23 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|-----------------|-------------------|
| WO 2000055231 | A1 | 20000921 | WO 2000-US6960 | 2000 0316 |
| <-- | | | | |
| W: AU, BR, CA, CN, JP, KR, MX, NZ, US | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| CA 2361302 | AA | 20000921 | CA 2000-2361302 | 2000 0316 |
| <-- | | | | |
| AU 2000038900 | A5 | 20001004 | AU 2000-38900 | 2000 0316 |
| <-- | | | | |
| AU 773223 | B2 | 20040520 | | |
| EP 1233992 | A1 | 20020828 | EP 2000-918020 | 2000 0316 |
| <-- | | | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY | | | | |
| BR 2000010382 | A | 20030722 | BR 2000-10382 | 2000 0316 |
| <-- | | | | |
| JP 2003525966 | T2 | 20030902 | JP 2000-605656 | 2000 0316 |
| <-- | | | | |
| NZ 514217 | A | 20040227 | NZ 2000-514217 | 2000 0316 |
| <-- | | | | |
| US 6855779 | B1 | 20050215 | US 2001-913574 | 2001 0813 |
| <-- | | | | |
| PRIORITY APPLN. INFO.: | | | US 1999-124850P | P 1999 0317 |

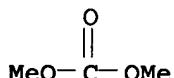
<--
 US 1999-131146P P 1999
 0424
 <--
 US 1999-131145P P 1999
 0427
 <--
 WO 2000-US6960 W 2000
 0316
 <--

AB A low VOC clear coat composition comprises an epoxy compound, a melamine component and an aliphatic polyisocyanate having an average of 2 to 6 isocyanate functionalities, and optionally contains a catalyst (e.g., organotin catalysts, acid catalysts and combinations); a polyhydroxyl functional compound (e.g., polycarbonate polyol); or other additives (e.g., light absorbers and light stabilizers). Also disclosed is an article coated with the clear coat composition, a process of making the composition, and a process of applying the composition to, for example, an automobile body.
IT 306970-89-8P (high solids epoxy, melamine and isocyanate clear coat compns.)
RN 306970-89-8 HCPLUS
CN Carbonic acid, dimethyl ester, polymer with 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol and 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

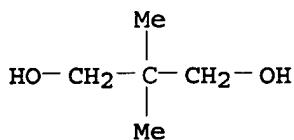
CRN 629-11-8
CMF C6 H14 O2HO—(CH₂)₆—OH

CM 2

CRN 616-38-6
CMF C3 H6 O3

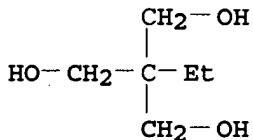
CM 3

CRN 126-30-7
CMF C5 H12 O2



CM 4

CRN 77-99-6
 CMF C6 H14 O3



IC ICM C08G018-44
 ICS C09D175-04; C09D163-00
 CC 42-9 (Coatings, Inks, and Related Products)
 IT 306970-89-8P 306971-05-1P 306971-20-0P 306971-22-2P
 (high solids epoxy, melamine and isocyanate clear coat compns.)
 REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L54 ANSWER 31 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2000:475447 HCAPLUS
 DOCUMENT NUMBER: 133:105498
 TITLE: Preparation of aliphatic oligocarbonate diols
 from dimethyl carbonate and aliphatic diols
 Langer, Reinhard; Buysch, Hans-Josef;
 Hovestadt, Wieland; Melchiors, Martin
 INVENTOR(S):
 PATENT ASSIGNEE(S): Bayer A.-G., Germany
 SOURCE: Eur. Pat. Appl., 12 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|------------------|---------------------|
| EP 1018504 | A1 | 20000712 | EP 1999-125968 | 1999 1227 --- |
| EP 1018504 | B1 | 20021009 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| DE 19900554 | A1 | 20000713 | DE 1999-19900554 | 1999 0109 --- |

| | | | | |
|------------------------|----|----------|------------------|------|
| US 6156919 | A | 20001205 | US 1999-461832 | |
| | | | | 1999 |
| | | | | 1215 |
| AT 225765 | E | 20021015 | AT 1999-125968 | |
| | | | | 1999 |
| | | | | 1227 |
| ES 2185288 | T3 | 20030416 | ES 1999-125968 | |
| | | | | 1999 |
| | | | | 1227 |
| JP 2000204062 | A2 | 20000725 | JP 2000-1676 | |
| | | | | 2000 |
| | | | | 0107 |
| PRIORITY APPLN. INFO.: | | | DE 1999-19900554 | A |
| | | | | 1999 |
| | | | | 0109 |
| <-- | | | | |

OTHER SOURCE(S): MARPAT 133:105498

AB The title diols, with terminal OH group blocking by MeOCO- groups <5%, are prepared from (MeO)2CO (I) and aliphatic diols I (conversion >80%) in the presence of soluble catalysts in a gas-liquid countercurrent apparatus with removal of MeOH and traces of I in an apparatus generating gas bubbles in the oligocarbonate. Adding 640 mL/h 1,6-hexanediol containing 0.28% KOH at 120° and 330 mL/h (MeO)2CO after evaporation at 120° to a column heated at 120° equipped with a diphlegmator held at 80° gave apprx. 712 g/h polycarbonate containing MeOH apprx. 4, (EtO)2CO 0.7, and hexanediol 7.4%.

IT 101325-00-2DP, Dimethyl carbonate-1,6-hexanediol copolymer, hydroxy-terminated 282534-14-9DP, 1,4-Cyclohexanediol-methanol-dimethyl carbonate-1,6-hexanediol-neopentyl glycol copolymer, hydroxy-terminated 282534-15-0DP, Caprolactone-dimethyl carbonate-1,6-hexanediol copolymer, hydroxy-terminated (preparation of aliphatic oligocarbonate diols from di-Me carbonate and aliphatic diols)

RN 101325-00-2 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)
(CA INDEX NAME)

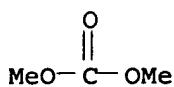
CM 1

CRN 629-11-8
CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6
CMF C3 H6 O3



RN 282534-14-9 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-cyclohexanedimethanol, 2,2-dimethyl-1,3-propanediol and 1,6-hexanediol (9CI) (CA INDEX NAME)

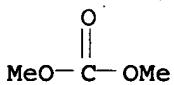
CM 1

CRN 629-11-8
CMF C6 H14 O2

$$\text{HO} - (\text{CH}_2)_6 - \text{OH}$$

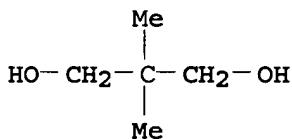
CM 2

CRN 616-38-6
CMF C3 H6 O3



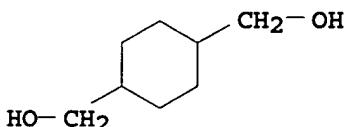
CM 3

CRN 126-30-7
CMF C5 H12 O2



CM 4

CRN 105-08-8
CMF C8 H16 O2



RN 282534-15-0 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and
2-oxepanone (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

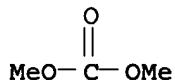
CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6

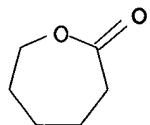
CMF C3 H6 O3



CM 3

CRN 502-44-3

CMF C6 H10 O2



IC ICM C07C068-06

ICS C07C069-96; C08G064-30

CC 35-5 (Chemistry of Synthetic High Polymers)

IT 24937-06-2P, Dimethyl carbonate-1,6-hexanediol copolymer, sru

101325-00-2DP, Dimethyl carbonate-1,6-hexanediol

copolymer, hydroxy-terminated 282534-14-9DP,

1,4-Cyclohexanediethanol-dimethyl carbonate-1,6-hexanediol-neopentyl glycol copolymer, hydroxy-terminated

282534-15-0DP, Caprolactone-dimethyl carbonate-1,6-hexanediol copolymer, hydroxy-terminated

(preparation of aliphatic oligocarbonate diols from di-Me carbonate and aliphatic diols)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L54 ANSWER 32 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:181043 HCAPLUS

DOCUMENT NUMBER: 132:193334

TITLE: Enzymic manufacture of poly(alkylene carbonates)

INVENTOR(S) : Matsumura, Shuichi
 PATENT ASSIGNEE(S) : Kawaken Fine Chemicals Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|--------------|
| JP 2000080160 | A2 | 20000321 | JP 1998-252257 | 1998 0907 |

PRIORITY APPLN. INFO.: JP 1998-252257
1998
0907

AB YO(CO₂XO)_nZ (X = C₁₋₆ alkylene; Y = C₁₋₅ alkyl, XOH; Z = H, CO₂R; R = C₁₋₅ alkyl; n ≥ 1) are manufactured by reaction of R₂CO₃ (R = C₁₋₅ alkyl) with HOXOH (X = C₁₋₆ alkylene) in the presence of enzymes. Di-Et carbonate and 1,3-propanediol were oligomerized in the presence of Novozym 435 (immobilized lipase) at 70° for 24 h and further polymerized under 0.5 mmHg for 7 h to give 34% poly(trimethylene carbonate) with average mol. weight 18,500.

IT 146789-33-5P, 1,4-Butanediol-dimethyl carbonate copolymer
(enzymic manufacture of poly(alkylene carbonates))

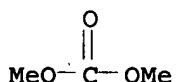
RN 146789-33-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol (9CI)
(CA INDEX NAME)

CM 1

CRN 616-38-6

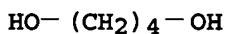
CMF C₃ H₆ O₃



CM 2

CRN 110-63-4

CMF C₄ H₁₀ O₂



IC ICM C08G064-30
ICS C08G064-02

CC 16-4 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 35

IT 25805-40-7P, 1,4-Butanediol-dimethyl carbonate copolymer, sru
50862-75-4P, Diethyl carbonate-1,3-propanediol copolymer, sru

53192-41-9P, Diethyl carbonate-1,3-propanediol copolymer
 146789-33-5P, 1,4-Butanediol-dimethyl carbonate copolymer
 (enzymic manufacture of poly(alkylene carbonates))

L54 ANSWER 33 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2000:37911 HCAPLUS
 DOCUMENT NUMBER: 132:94137
 TITLE: Manufacture of aliphatic polyester-polycarbonates with little discoloration
 INVENTOR(S): Kuriyama, Yasuhisa; Takakuwa, Kyohei; Ito, Masaki; Nakamura, Mitsuru
 PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|----------------|----------|-----------------|--------------|
| JP 2000017067 | A2 | 20000118 | JP 1998-185828 | 1998 0701 |
| <-- | | | | 1998 0701 |
| PRIORITY APPLN. INFO.: | JP 1998-185828 | | | <-- |

AB The polymers with carbonate unit content ≥ 5 mol%, Mw $\geq 100,000$, melt viscosity 1000-50,000 P at 190° under 60-kg load, and m.p. 70-180° are manufactured by oligomerization of aliphatic dihydroxy compds. and/or hydroxycarboxylic acids with aliphatic dibasic acids and/or their derivs. in the presence of transesterification catalysts to Mn $\leq 10,000$ and further reaction with aliphatic carbonates. Thus, 18,740 g succinic acid and 21,430 g 1,4-butanediol were heated in the presence of Ti tetrakisopropoxide and Zn(OAc)₂ to obtain an oligomer, 24,000 g of which was further treated with di-Et carbonate to give a poly(ester-carbonate), showing m.p. 104°, Mw 186,000, carbonate unit content 14.1%, and yellowness index 0.5 as a CHCl₃ solution

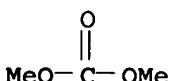
IT 254758-15-1P
 (manufacture of aliphatic polyester-polycarbonates with little discoloration)

RN 254758-15-1 HCAPLUS

CN Butanedioic acid, polymer with 1,4-butanediol and dimethyl carbonate (9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6
 CMF C3 H6 O3



CM 2

CRN 110-63-4
CMF C4 H10 O2HO—(CH₂)₄—OH

CM 3

CRN 110-15-6
CMF C4 H6 O4HO₂C—CH₂—CH₂—CO₂HIC ICM C08G063-82
ICS C08G063-64

CC 37-3 (Plastics Manufacture and Processing)

IT 254758-14-0P, 1,4-Butanediol-diethyl carbonate-succinic acid
copolymer 254758-15-1P 254758-16-2P 254758-17-3P
(manufacture of aliphatic polyester-polycarbonates with little
discoloration)

L54 ANSWER 34 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:15609 HCPLUS

DOCUMENT NUMBER: 132:79294

TITLE: Production and use of polymers with terminal
hydroxy groupsINVENTOR(S): Westfechtel, Alfred; Gruetzmacher, Roland;
Grundt, Elke

PATENT ASSIGNEE(S): Henkel Kgaa, Germany

SOURCE: Ger. Offen., 8 pp.
CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|------------------|--------------|
| DE 19829593 | A1 | 20000105 | DE 1998-19829593 | 1998 0702 |
| CA 2336400 | AA | 20000113 | CA 1999-2336400 | 1999 0623 |
| WO 2000001755 | A2 | 20000113 | WO 1999-EP4351 | 1999 0623 |
| WO 2000001755 | A3 | 20010907 | | <-- |

W: CA, JP, US

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,
MC, NL, PT, SE

EP 1091993 A1 20010418 EP 1999-932714

1999
0623

<--

EP 1091993 B1 20020522

R: AT, BE, CH, DE, FR, GB, IT, LI, NL

AT 217893 E 20020615 AT 1999-932714

1999
0623

<--

JP 2002519491 T2 20020702 JP 2000-558153

1999
0623

<--

US 6566563 B1 20030520 US 2001-720890

2001
0504

<--

PRIORITY APPLN. INFO.:-

DE 1998-19829593

A
1998
0702

<--

WO 1999-EP4351

W
1999
0623

<--

AB Diols with terminal methylol groups are heated at 110-160° with with Me₂CO₃ in the presence of a Ti catalyst with release of MeOH, the temperature is raised to 190-240° at <100 mbar, and the catalyst is deactivated at 80-120° with 0.8-2 equiv H₃PO₄ in the form of a 1-20% aqueous solution. The product is suitable for incorporation into a polyurethane. In examples, polytetramethylene glycol or Sovermol 908 were condensed with Me₂CO₃ in the presence of Ti(OBu)₄ and the product was copolymerd. with Desmodur VL.

IT 253584-47-3P, Desmodur VL-dimethyl carbonate-PTMG block copolymer

(preparation of hydroxy-terminated polymers for use with polyurethanes)

RN 253584-47-3 HCPLUS

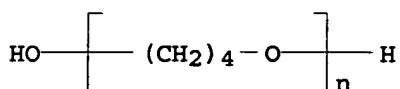
CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) and polymethylenepolyphenylene isocyanate, block (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C₄H₈O)_nH₂O

CCI PMS



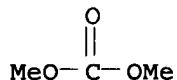
CM 2

CRN 9016-87-9
 CMF Unspecified
 CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 616-38-6
 CMF C3 H6 O3



IT 171926-77-5P

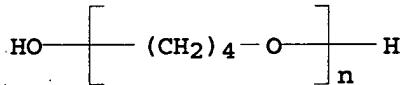
(preparation of hydroxy-terminated polymers for use with polyurethanes)

RN 171926-77-5 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA INDEX NAME)

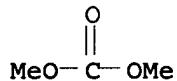
CM 1

CRN 25190-06-1
 CMF (C4 H8 O)n H2 O
 CCI PMS



CM 2

CRN 616-38-6
 CMF C3 H6 O3



IC ICM C08G064-00

ICS C08G065-32; C08G018-44

CC 37-3 (Plastics Manufacture and Processing)

IT 253584-47-3P, Desmodur VL-dimethyl carbonate-PTMG block copolymer 253584-48-4P, Desmodur VL-dimethyl carbonate-Sovermol VOL 908 copolymer

(preparation of hydroxy-terminated polymers for use with polyurethanes)

IT 171926-77-5P 253584-46-2P, Dimethyl carbonate-Sovermol POL 908 copolymer

(preparation of hydroxy-terminated polymers for use with
polyurethanes)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L54 ANSWER 35 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:648864 HCAPLUS
DOCUMENT NUMBER: 131:272672
TITLE: Antistatic agents with good heat resistance
and resin composition therewith
INVENTOR(S): Ichihara, Eiji
PATENT ASSIGNEE(S): Sanyo Chemical Industries Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|----------------|----------|-----------------|--------------|
| JP 11279330 | A2 | 19991012 | JP 1998-100313 | 1998 0326 |
| <-- | | | | |
| PRIORITY APPLN. INFO.: | JP 1998-100313 | | | |
| | 1998 0326 | | | |
| <-- | | | | |

AB The agents are compds. having countered anions and ≥ 2 cationic groups, where the countered anions are derived from ultra-strong acids and the cationic groups linked with a nonionic mol. chain. Reaction of ethoxylated bisphenol A with epichlorohydrin in the presence of Bu₄NBr and NaOH at 40-50°, polymerization of the diglycidyl ether with N-methyllethanolamine, quaternization with MeCl, and salt exchange with NaBF₄ gave an antistatic agent with initial weight loss temperature 280°. Panlite L1225W (polycarbonate, 100 parts) was kneaded with 10 parts this agent and injection molded to give test pieces with surface resistivity 8 x 10¹¹ initially and 2 x 10¹² Ω after heating 24 h at 120°.

IT 245436-76-4DP, reaction products with hexafluorophosphoric acid
(antistatic agent with good heat resistance and resin composition therewith)

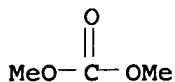
RN 245436-76-4 HCAPLUS

CN Hexanedioic acid, polymer with 2,2'-(methylimino)bis[ethanol], compd. with dimethyl carbonate (9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6

CMF C3 H6 O3

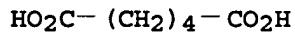


CM 2

CRN 30792-57-5
 CMF (C₆ H₁₀ O₄ . C₅ H₁₃ N O₂)_x
 CCI PMS

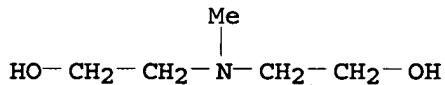
CM 3

CRN 124-04-9
 CMF C₆ H₁₀ O₄



CM 4

CRN 105-59-9
 CMF C₅ H₁₃ N O₂



IC ICM C08K005-19
 ICS C08K005-50; C08L101-02
 CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 38
 IT 245436-74-2DP, reaction products with sodium tetrafluoroborate
 245436-75-3DP, reaction products with sodium
 trifluoromethanesulfonate 245436-76-4DP, reaction
 products with hexafluorophosphoric acid 245436-77-5DP, reaction
 products with sodium tetrafluoroborate
 (antistatic agent with good heat resistance and resin composition
 therewith)

L54 ANSWER 36 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1999:341068 HCAPLUS
 DOCUMENT NUMBER: 131:52719
 TITLE: Acrylic polycarbonate-based polymer solid
 electrolyte
 INVENTOR(S): Shindo, Masaharu; Ishitoku, Takeshi
 PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| JP 11144524 | A2 | 19990528 | JP 1997-308968 | 1997 1111 |
| JP 3683086 | B2 | 20050817 | JP 1997-308968 | 1997 1111 |
| <-- | | | | |
| PRIORITY APPLN. INFO.: | | | | |

AB The electrolyte contains a polymer of a polycarbonate polyol (meth)acrylate and a Group IA metal salt. The solid electrolyte with improved chemical stability is suitable for batteries, elec. capacitors, etc.

IT 227085-06-5P
(solid electrolyte comprising polycarbonate (meth)acrylate polymer and Group IA metal salt)

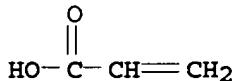
RN 227085-06-5 HCAPLUS

CCN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -

CN Carbonic acid, dimethyl ester, polymer with a hydroxyl-
hydroxypoly(oxy-1,2-ethanediyl) ether with 2-ethyl-2-
(hydroxymethyl)-1,3-propanediol (3:1), and 2,2'-oxybis[ethanol],
2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
CMF C3 H4 O2



CM 2

CRN 220301-90-6

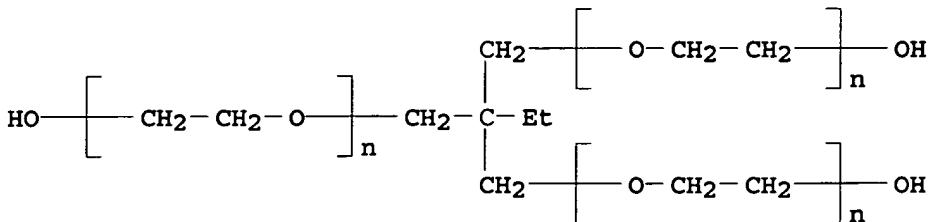
CMF (C4 H10 O3 . C3 H6 O3 . (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C6 H14 O3)x

CCI PMS

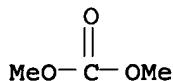
CM 3

CRN 50586-59-9

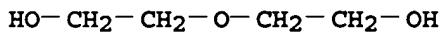
CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C6 H14 O3
CCI PMS



CM 4

CRN 616-38-6
CMF C3 H6 O3

CM 5

CRN 111-46-6
CMF C4 H10 O3

IC ICM H01B001-12
 ICS C08F290-02; C08G064-02; C08K003-00; C08L069-00; H01G009-025;
 H01G009-028; H01M006-18; H01M010-40
 CC 76-2 (Electric Phenomena)
 Section cross-reference(s): 38, 72
 IT 225658-69-5P, Diethylene glycol-dimethyl carbonate-Polyethylene
 glycol ether with trimethylolpropane copolymer methacrylic acid
 ester 227085-05-4P, Diethylene glycol-dimethyl carbonate
 copolymer methacrylic acid ester 227085-06-5P
 (solid electrolyte comprising polycarbonate (meth)acrylate
 polymer and Group IA metal salt)

L54 ANSWER 37 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:292625 HCAPLUS

DOCUMENT NUMBER: 130:299204

TITLE: Working fluids for refrigerating cycle
 equipment and the refrigerating cycle
 equipment using themINVENTOR(S): Kawakami, Tetsuji; Nakajima, Keizo; Sawai,
 Kiyoshi; Ueno, TakayoshiPATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd.,
 JapanSOURCE: Eur. Pat. Appl., 25 pp.
 CODEN: EPXXDWDOCUMENT TYPE: Patent
 LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|-------|----------|-----------------|-------|
| ----- | ---- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| EP 913456 | A2 | 19990506 | EP 1998-308813 | 1998 |
| | | | | 1028 |
| <-- | | | | |
| EP 913456 | A3 | 19990818 | | |

| | | | | |
|--|----|----------|----------------|------|
| EP 913456 | B1 | 20040218 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| JP 2000008063 | A2 | 20000111 | JP 1998-318385 | |
| | | | | 1998 |
| | | | | 1020 |
| US 6268317 | B1 | 20010731 | US 1998-179209 | <-- |
| | | | | 1998 |
| | | | | 1027 |
| CN 1218821 | A | 19990609 | CN 1998-123731 | <-- |
| | | | | 1998 |
| | | | | 1030 |
| CN 1094147 | B | 20021113 | | <-- |
| PRIORITY APPLN. INFO.: | | | JP 1997-298273 | A |
| | | | | 1997 |
| | | | | 1030 |
| | | | JP 1998-115024 | A |
| | | | | 1998 |
| | | | | 0424 |
| <-- | | | | |

OTHER SOURCE(S) : MARPAT 130:299204

AB A working fluid which demonstrates a preferable performance even with a small filling amount of the refrigerant of hydrocarbons containing no halogen atom such as ethane, propane, butane, isobutane, etc., into the refrigerating cycle equipment is disclosed. There is also disclosed a refrigerating cycle equipment excellent in the safety against the worst case of the refrigerant leakage, brought by the use of the above-mentioned working fluid. The working fluid comprises the refrigerant of hydrocarbons containing 2-4 carbon atoms and no halogen atom, and a lubricating oil for a refrigerator containing, as its main component, an ester compound which is incompatible with the above-mentioned refrigerant.

IT 74-84-0, Ethane, uses 74-98-6, R 290, uses
106-97-8, Butane, uses
(refrigerant; working fluids for refrigerating cycle equipment
and the refrigerating cycle equipment using them)

RN 74-84-0 HCAPLUS

CN Ethane (8CI, 9CI) (CA INDEX NAME)

H3C-CH3

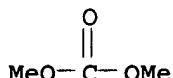
RN 74-98-6 HCAPLUS
CN Propane (8CI, 9CI) (CA INDEX NAME)

H3C-CH2-CH3

RN 106-97-8 HCAPLUS
CN Butane (8CI, 9CI) (CA INDEX NAME)

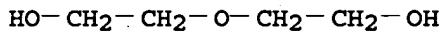
H3C-CH2-CH2-CH3

IT 223459-34-5P
 (working fluids for refrigerating cycle equipment and the refrigerating cycle equipment using them)
 RN 223459-34-5 HCPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,2-ethanediol and 2,2'-oxybis[ethanol] (9CI) (CA INDEX NAME)
 CM 1
 CRN 616-38-6
 CMF C3 H6 O3



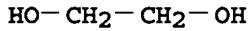
CM 2

CRN 111-46-6
 CMF C4 H10 O3



CM 3

CRN 107-21-1
 CMF C2 H6 O2



IC ICM C10M171-00
 ICS C10M105-48; C10M107-32; C10M107-34; C09K005-04; C08G059-62;
 C08G064-02; C07D317-36
 ICI C10N040-30
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 IT 74-84-0, Ethane, uses 74-98-6, R 290, uses
 75-28-5, Isobutane 106-97-8, Butane, uses
 (refrigerant; working fluids for refrigerating cycle equipment and the refrigerating cycle equipment using them)
 IT 25718-55-2P, Poly(ethylene carbonate), SRU 88754-66-9P
 116170-01-5P 130331-84-9P 147876-32-2P 223459-33-4P
 223459-34-5P 223459-35-6P 223459-36-7P 223459-38-9P
 223459-40-3P 223459-42-5P 223459-43-6P 223459-44-7P
 223459-45-8P
 (working fluids for refrigerating cycle equipment and the refrigerating cycle equipment using them)

L54 ANSWER 38 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1999:111752 HCPLUS
 DOCUMENT NUMBER: 130:154116
 TITLE: Crosslinked polycarbonate and polylactic acid

INVENTOR(S) : composition containing the same
 Ishihara, Jiro; Kuyama, Hiroki; Ozeki, Eiichi;
 Ishitoku, Takeshi; Tanaka, Masahide; Sakamoto,
 Naoya

PATENT ASSIGNEE(S) : Shimadzu Corporation, Japan; Mitsui Chemicals,
 Inc.

SOURCE: Eur. Pat. Appl., 26 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|--------------|
| EP 896013 | A1 | 19990210 | EP 1998-114235 | 1998 0729 |

| | | | | | |
|--|------------|---|----------|----------------|--------------|
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | US 5952450 | A | 19990914 | US 1998-127075 | 1998 0731 |
|--|------------|---|----------|----------------|--------------|

| | | | | |
|-------------|----|----------|----------------|--------------|
| JP 11116668 | A2 | 19990427 | JP 1998-236494 | 1998 0806 |
|-------------|----|----------|----------------|--------------|

| | | | | |
|-------------|----|----------|----------------|--------------|
| JP 11140292 | A2 | 19990525 | JP 1998-257600 | 1998 0826 |
|-------------|----|----------|----------------|--------------|

| | | | |
|------------------------|----------------|---|--------------|
| PRIORITY APPLN. INFO.: | JP 1997-225673 | A | 1997 0806 |
|------------------------|----------------|---|--------------|

| | | |
|----------------|---|--------------|
| JP 1997-246173 | A | 1997 0827 |
|----------------|---|--------------|

AB A crosslinked polycarbonate is obtained by polycondensation of (A) a diol, (B) a trivalent or higher polyhydric alc. in which any two hydroxy groups are not positioned in a 1,2- or 1,3- relationship, and (C) a carbonyl component such as a carbonic acid diester. This crosslinked polycarbonate is used as a modifier for polylactic acids. The brittleness of the polylactic acid is improved while maintaining mech. strength, thermal stability, and transparency.

IT 220301-88-2P 220301-91-7P
 (crosslinked polycarbonate and polylactic acid composition containing the same)

RN 220301-88-2 HCPLUS

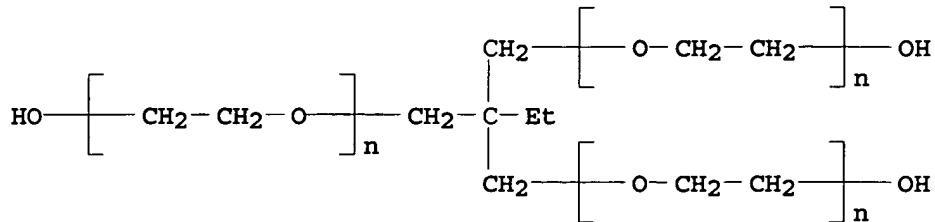
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol and α -hydro- ω -hydroxypoly(oxy-1,2-ethanediyl) ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1) (9CI) (CA INDEX NAME)

CM 1

CRN 50586-59-9

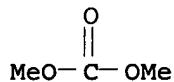
CMF (C₂ H₄ O)_n (C₂ H₄ O)_n (C₂ H₄ O)_n C₆ H₁₄ O₃

CCI PMS



CM 2

CRN 616-38-6

CMF C₃ H₆ O₃

CM 3

CRN 110-63-4

CMF C₄ H₁₀ O₂HO-(CH₂)₄-OH

RN 220301-91-7 HCAPLUS

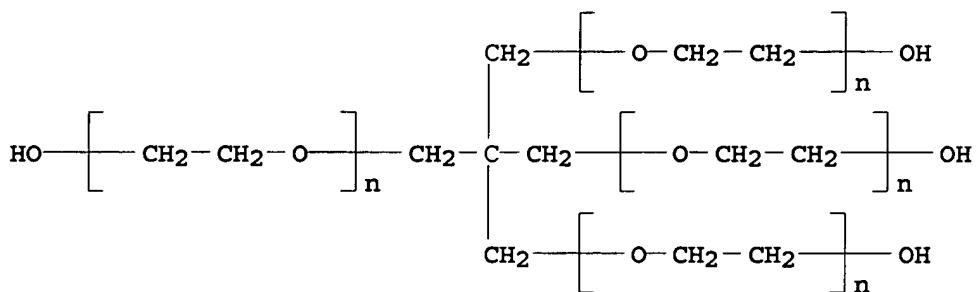
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol and α -hydro- ω -hydroxypoly(oxy-1,2-ethanediyl) ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1) (9CI) (CA INDEX NAME)

CM 1

CRN 42503-45-7

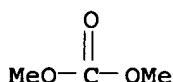
CMF (C₂ H₄ O)_n (C₂ H₄ O)_n (C₂ H₄ O)_n (C₂ H₄ O)_n C₅ H₁₂ O₄

CCI PMS



CM 2

CRN 616-38-6
CMF C3 H6 03



CM 3

CRN 110-63-4
CMF C4 H10 O2

$$\text{HO} - (\text{CH}_2)_4 - \text{OH}$$

IC ICM C08G064-20
ICS C08L069-00; C08L067-04; C08L067-00; C08G064-02
CC 35-5 (Chemistry of Synthetic High Polymers)
IT 220301-88-2P 220301-89-3P 220301-90-6P
220301-91-7P 220301-92-8P
(crosslinked polycarbonate and polylactic acid composition containing
the name)

the same)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L54 ANSWER 39 OF 75 HCAPLUS COPYRIGHT 2005 ACS ON STN

ACCESSION NUMBER: 1998:712680 HCABLIJS

ACCESSION NUMBER: 1998.71288
DOCUMENT NUMBER: 129:343830

DOCUMENT NUMBER: 123.345650
TITLE: Polycarbonates for giving polyurethanes and polyamide or polyester elastomers with good hydrolysis and cold resistances, flexibility, and dynamic property

INVENTOR(S): Ito, Shinzo; Umezawa, Masao

PATENT ASSIGNEE(S): Du Pont-Toray Co., Ltd., Japan

Спир. Кокай Токкюро Коэн, 5 пр
CODEN: JKXXXAF

DOCUMENT TYPE: **Patent**

DOCUMENT TYPE: Patent
LANGUAGE: Japanese

LANGUAGE: J
FAMILY ACC NUM COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|--------------|
| JP 10292037 | A2 | 19981104 | JP 1997-118842 | 1997 0421 |

PRIORITY APPLN. INFO.: JP 1997-118842

1997
0421

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AB Title polycarbonates are composed of repeating units of CO₂AO [A = diol residues of (CH₂)₆ (I) and CH₂CMe₂CH₂ (II) (mol ratio of II/I = 5/95-45/55)]. The polycarbonates are useful as raw materials for polyurethanes, polyamide or polyester elastomers, coatings, and adhesives. Thus, 514 g a reaction product [prepared from di-Me carbonate 903, 1,6-hexanediol (III) 509, and neopentyl glycol 62.4 g] and 127.4 g III were polymerized at 200° to obtain a polycarbonate [mol. weight 10,000; OH value 57; hue (APHA) 80; mol ratio of II/I = 7/93], which was polymerized with polyisocyanates to give a polyurethane with good hydrolysis and cold resistances, flexibility, and dynamic property.

IT 127695-57-2P, Dimethyl carbonate-1,6-hexanediol-neopentyl glycol copolymer
(polycarbonates for giving polyurethanes and polyamide or polyester elastomers with good hydrolysis and cold resistances, flexibility, and dynamic property)

RN 127695-57-2 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 2,2-dimethyl-1,3-propanediol and 1,6-hexanediol (9CI) (CA INDEX NAME)

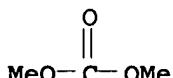
CM 1

CRN 629-11-8
CMF C₆ H₁₄ O₂

HO—(CH₂)₆—OH

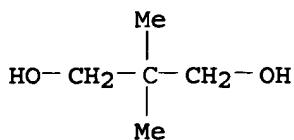
CM 2

CRN 616-38-6
CMF C₃ H₆ O₃



CM 3

CRN 126-30-7
CMF C₅ H₁₂ O₂



IC ICM C08G064-02
ICs C08G018-44; C08G063-64; C08G064-30; C08G069-00; C09D169-00;
C09J169-00
CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 38, 39, 42
IT 127695-57-2P, Dimethyl carbonate-1,6-hexanediol-neopentyl
glycol copolymer
(polycarbonates for giving polyurethanes and polyamide or
polyester elastomers with good hydrolysis and cold resistances,
flexibility, and dynamic property)

L54 ANSWER 40 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:614354 HCPLUS

DOCUMENT NUMBER: 129:276542

DOCUMENT NUMBER: 1111170311
TITLE: Manufacture of polyurethanes with good mechanical strength and resistance to heat, hydrolysis, cold, and weather

INVENTOR(S) : Okamoto, Hidetada; Kunimura, Masaru; Funakoshi, Tsutomu

PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15

CODEN: JKXXXAF

DOCUMENT TYPE: **Patent**

DOCUMENT TYPE: Patent
LANGUAGE: Japanese

LANGUAGE: Japanese
FAMILY ACC NUM COUNT: 1

FAMILY ACC. NUM. CO
PATENT INFORMATION:

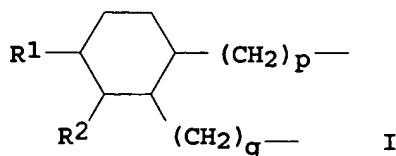
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| JP 10251369 | A2 | 19980922 | JP 1997-61161 | 1997 0314 |

PRIORITY APPLN. INFO.: JP 1997-61161

1997
0314

1997
0314

GI



AB Title polyurethanes have (A) repeating unit $\text{NHCO}_2(\text{ROCO}_2)_n\text{RO}_2\text{CNH}$ [R = diol residue I or $(\text{CH}_2)_r\text{CHR}_3\text{CHR}_4(\text{CH}_2)_s$; R1-4 = alkyl; total of p, q, and C number in R1 and R2 is 30; total of r, s, and C number in R3

and R4 is 34; n = 1-50] and (B) repeating unit $\text{NHCO}_2\text{R}'\text{O}_2\text{CNH}$ (R' = alkyl) at (B)/(A) mol ratio 1/10-10/1. The polyurethanes are manufactured by transesterifying HOROH (R = same as above) with carbonates in the presence of catalysts at 110-280° under ordinary pressure and at 110-280° under reduced pressure while removing byproduct alcs. or phenols to obtain (C) $\text{HO}(\text{ROCO}_2)_n\text{ROH}$, mixing (C), (D) chain extenders, and (E) organic diisocyanates at (D)/(C) mol ratio 1/10-10/1 and [active H in (D)]:[NCO in (E)] equiv ratio 1:0.8-1:1.2, and polymerizing the mixts. Thus, a polycarbonate diol [prepared from 0.85 mol Bespol HP 1000 (dimer diol) and 0.81 mol $(\text{MeO})_2\text{CO}$] 0.0756, 1,4-butanediol 0.151, and MDI 0.247 mol were polymerized in the presence of $(\text{BuO})_4\text{Ti}$ in 1:1 DMF/PhMe mixture, applied on a glass plate, and dried to give a coating film showing breaking strength 300 kg/cm², elongation 480%, glass-transition temperature -42°, good resistance to heat, hydrolysis, and weather.

IT 213739-93-6P, Bespol HP 1000-1,4-butanediol-dimethyl carbonate-MDI block copolymer 213739-97-0P, Bespol HP 1000-dimethyl carbonate-HDI-1,6-hexanediol block copolymer (manufacture of block polycarbonate-polyurethanes with good resistance to heat, hydrolysis, cold, and weather)

RN 213739-93-6 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, 1,1'-methylenebis[4-isocyanatobenzene] and Bespol HP 1000, block (9CI) (CA INDEX NAME)

CM 1

CRN 186673-41-6

CMF Unspecified

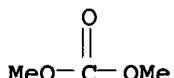
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 616-38-6

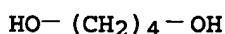
CMF C3 H6 O3



CM 3

CRN 110-63-4

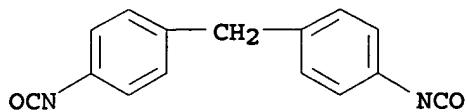
CMF C4 H10 O2



CM 4

CRN 101-68-8

CMF C15 H10 N2 O2



RN 213739-97-0 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-diisocyanatohexane, 1,6-hexanediol and Bespol HP 1000, block (9CI) (CA INDEX NAME)

CM 1

CRN 186673-41-6

CMF Unspecified

CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 822-06-0

CMF C8 H12 N2 O2

OCN—(CH₂)₆—NCO

CM 3

CRN 629-11-8

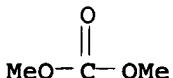
CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 4

CRN 616-38-6

CMF C3 H6 O3



IC ICM C08G018-44

ICS C08G018-08; C08G018-32

CC 35-5 (Chemistry of Synthetic High Polymers)

IT 213739-93-6P, Bespol HP 1000-1,4-butanediol-dimethyl carbonate-MDI block copolymer 213739-95-8P, Bespol HP 1000-1,4-butanediol-diphenyl carbonate-MDI block copolymer 213739-97-0P, Bespol HP 1000-dimethyl carbonate-HDI-1,6-hexanediol block copolymer

(manufacture of block polycarbonate-polyurethanes with good resistance to heat, hydrolysis, cold, and weather)

L54 ANSWER 41 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1998:561312 HCAPLUS
 DOCUMENT NUMBER: 129:176145
 TITLE: Poly(2,2,4,4-tetramethyl-1,3-cyclobutylene carbonate) and manufacture thereof
 INVENTOR(S): Walker, Theodore Roosevelt; Darnell, William
 Ronald; Fleischer, Jean Carroll
 PATENT ASSIGNEE(S): Eastman Chemical Co., USA
 SOURCE: Eur. Pat. Appl., 12 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| EP 857743 | A2 | 19980812 | EP 1997-122802 | 1997 1223 |

EP 857743 A3 19990224
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.: US 1996-34164P P
 1996
1228

AB The title polymer is prepared by mixing (i) 2,2,4,4-tetramethyl-1,3-cyclobutanediol, (ii) di-Me carbonate, and (iii) a basic catalyst, then heating the mixture to produce an intermediate, followed by heating the intermediate at $\leq 300^{\circ}\text{C}$ to produce the polycarbonate.

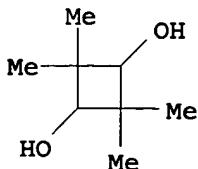
IT 211512-73-1P, 1,6-Hexanediol-dimethyl carbonate-2,2,4,4-tetramethyl-1,3-cyclobutanediol copolymer 211512-75-3P
 (poly(2,2,4,4-tetramethyl-1,3-cyclobutylene carbonate) and manufacture thereof)

RN 211512-73-1 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 2,2,4,4-tetramethyl-1,3-cyclobutanediol (9CI) (CA INDEX NAME)

CM 1

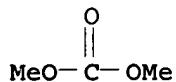
CRN 3010-96-6
 CMF C8 H16 O2



CM 2

CRN 629-11-8
CMF C6 H14 O2HO—(CH₂)₆—OH

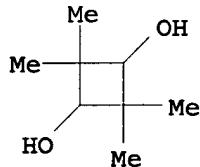
CM 3

CRN 616-38-6
CMF C3 H6 O3

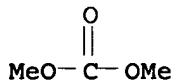
RN 211512-75-3 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol and
2,2,4,4-tetramethyl-1,3-cyclobutanediol (9CI) (CA INDEX NAME)

CM 1

CRN 3010-96-6
CMF C8 H16 O2

CM 2

CRN 616-38-6
CMF C3 H6 O3

CM 3

CRN 110-63-4
CMF C4 H10 O2HO—(CH₂)₄—OH

IC ICM C08G064-30
 ICS C08G064-02
 CC 35-5 (Chemistry of Synthetic High Polymers)
 IT 25722-32-1P, Dimethyl carbonate-2,2,4,4-tetramethyl-1,3-cyclobutanediol copolymer, sru 116964-88-6P, Dibutyl carbonate-2,2,4,4-tetramethyl-1,3-cyclobutanediol copolymer 209911-70-6P, Dimethyl carbonate-2,2,4,4-tetramethyl-1,3-cyclobutanediol copolymer 211512-68-4P, Diethyl carbonate-2,2,4,4-tetramethyl-1,3-cyclobutanediol copolymer 211512-71-9P, 1,4-Cyclohexanedimethanol-dimethyl carbonate-2,2,4,4-tetramethyl-1,3-cyclobutanediol copolymer 211512-73-1P, 1,6-Hexanediol-dimethyl carbonate-2,2,4,4-tetramethyl-1,3-cyclobutanediol copolymer 211512-75-3P (poly(2,2,4,4-tetramethyl-1,3-cyclobutylene carbonate) and manufacture thereof)

L54 ANSWER 42 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:410718 HCAPLUS

DOCUMENT NUMBER: 129:95861

TITLE: Polycarbonate copolyester diols their preparation and use

INVENTOR(S): Greco, Alberto

PATENT ASSIGNEE(S): Enichem S.P.A., Italy

SOURCE: Eur. Pat. Appl., 24 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|-----------------|--------------|
| EP 849303 | A2 | 19980624 | EP 1997-119779 | 1997 1112 |
| <-- | | | | |
| EP 849303 | A3 | 19980812 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| US 5929193 | A | 19990727 | US 1997-974917 | 1997 1120 |
| <-- | | | | |
| JP 11001549 | A2 | 19990106 | JP 1997-351784 | 1997 1219 |
| <-- | | | | |
| PRIORITY APPLN. INFO.: | | | IT 1996-MI2662 | A |
| | | | | 1996 1219 |
| <-- | | | | |

AB Polycarbonate co-polyester diols with a mol. weight 1000-6000, the polycarbonate or polyether polycarbonate diol units represent 30-70%, are prepared by reaction of cyclic esters, glycolide or lactide with polycarbonate or polyether carbonate diols at 100-180° for 2-10 h. Thus, liquid diethylene glycol-dimethyl carbonate-ε-caprolactone copolymer (I) had glass transition temperature (Tg) -50°. The butanediol-I-MDI

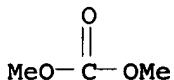
thermoplastic elastomer (NCO index 1.03) had Tg -32.7, gas oil absorption 2.8%, and tensile strength retention (120°) 74%.

IT 209729-42-0P, 1,4-Butanediol-dimethyl carbonate-ε-caprolactone block copolymer 209729-43-1P, Dimethyl carbonate-1,6-hexanediol-ε-caprolactone block copolymer 209729-48-6P, Dimethyl carbonate-ε-caprolactone-1,6-hexanediol-norbornene dimethanol block copolymer (polycarbonate copolyester diols preparation and use for polyurethane elastomers having heat and oil resistance and good mech. properties)

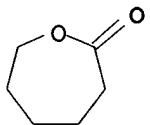
RN 209729-42-0 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol and 2-oxepanone, block (9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6
CMF C3 H6 O3

CM 2

CRN 502-44-3
CMF C6 H10 O2

CM 3

CRN 110-63-4
CMF C4 H10 O2HO-(CH₂)₄-OH

RN 209729-43-1 HCPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 2-oxepanone, block (9CI) (CA INDEX NAME)

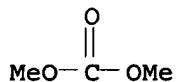
CM 1

CRN 629-11-8
CMF C6 H14 O2

HO—(CH₂)₆—OH

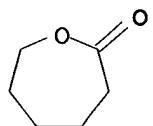
CM 2

CRN 616-38-6
CMF C₃ H₆ O₃



CM 3

CRN 502-44-3
CMF C₆ H₁₀ O₂



RN 209729-48-6 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with bicyclo[2.2.1]hept-5-ene-2,3-dimethanol, 1,6-hexanediol and 2-oxepanone, block (9CI)
(CA INDEX NAME)

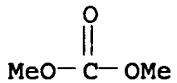
CM 1

CRN 629-11-8
CMF C₆ H₁₄ O₂

HO—(CH₂)₆—OH

CM 2

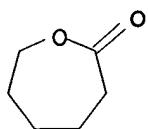
CRN 616-38-6
CMF C₃ H₆ O₃



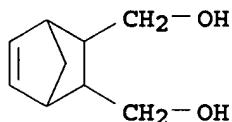
CM 3

CRN 502-44-3

CMF C6 H10 O2



CM 4

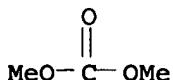
CRN 85-39-2
CMF C9 H14 O2

IT 209729-49-7P, 1,4-Butanediol-diethylene glycol-dimethyl carbonate- ϵ -caprolactone-MDI block copolymer
 209729-50-0P, 1,4-Butanediol-dimethyl carbonate- ϵ -caprolactone-MDI block copolymer 209729-51-1P,
 1,4-Butanediol-dimethyl carbonate-1,6-hexanediol- ϵ -caprolactone-MDI block copolymer 209729-52-2P,
 1,4-Butanediol-diethylene glycol-dimethyl carbonate- ϵ -caprolactone-MDI-tripropylene glycol block copolymer
 209729-53-3P, 1,4-Butanediol-diethylene glycol-dimethyl carbonate-MDI-8-valerolactone block copolymer
 (rubber; polycarbonate copolyester diols preparation and use for polyurethane elastomers having heat and oil resistance and good mech. properties)

RN 209729-49-7 HCPLUS

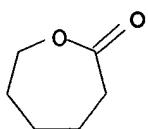
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, 1,1'-methylenebis[4-isocyanatobenzene], 2-oxepanone and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

CM 1

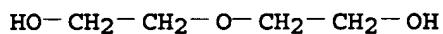
CRN 616-38-6
CMF C3 H6 O3

CM 2

CRN 502-44-3
CMF C6 H10 O2



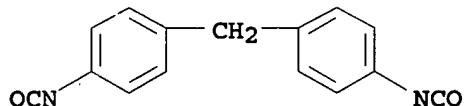
CM 3

CRN 111-46-6
CMF C4 H10 O3

CM 4

CRN 110-63-4
CMF C4 H10 O2

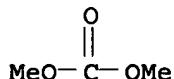
CM 5

CRN 101-68-8
CMF C15 H10 N2 O2

RN 209729-50-0 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, 1,1'-methylenebis[4-isocyanatobenzene] and 2-oxepanone, block (9CI) (CA INDEX NAME)

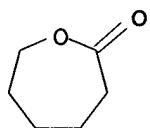
CM 1

CRN 616-38-6
CMF C3 H6 O3

CM 2

CRN 502-44-3

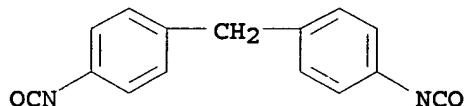
CMF C6 H10 O2



CM 3

CRN 110-63-4
CMF C4 H10 O2HO—(CH₂)₄—OH

CM 4

CRN 101-68-8
CMF C15 H10 N2 O2

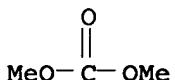
RN 209729-51-1 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, 1,6-hexanediol, 1,1'-methylenebis[4-isocyanatobenzene] and 2-oxepanone, block (9CI) (CA INDEX NAME)

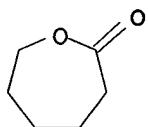
CM 1

CRN 629-11-8
CMF C6 H14 O2HO—(CH₂)₆—OH

CM 2

CRN 616-38-6
CMF C3 H6 O3

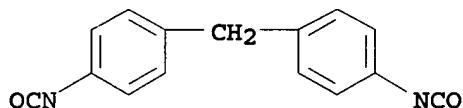
CM 3

CRN 502-44-3
CMF C6 H10 O2

CM 4

CRN 110-63-4
CMF C4 H10 O2HO—(CH₂)₄—OH

CM 5

CRN 101-68-8
CMF C15 H10 N2 O2

RN 209729-52-2 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol,
 1,1'-methylenebis[4-isocyanatobenzene], [(1-methyl-1,2-
 ethanediyl)bis(oxy)]bis[propanol], 2-oxepanone and
 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

CM 1

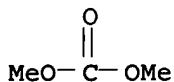
CRN 24800-44-0
CMF C9 H20 O4
CCI IDSHO—CH₂—CH₂—O—CH₂—CH₂—O—CH₂—CH₂—OH

3 (D1—Me)

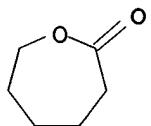
CM 2

CRN 616-38-6

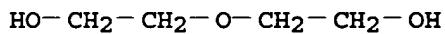
CMF C3 H6 O3



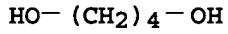
CM 3

CRN 502-44-3
CMF C6 H10 O2

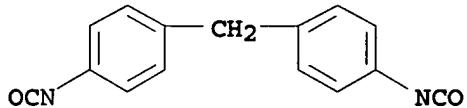
CM 4

CRN 111-46-6
CMF C4 H10 O3

CM 5

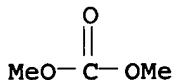
CRN 110-63-4
CMF C4 H10 O2

CM 6

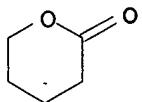
CRN 101-68-8
CMF C15 H10 N2 O2

RN 209729-53-3 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol,
 1,1'-methylenebis[4-isocyanatobenzene], 2,2'-oxybis[ethanol] and
 tetrahydro-2H-pyran-2-one, block (9CI) (CA INDEX NAME)

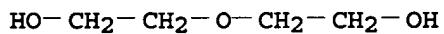
CM 1

CRN 616-38-6
CMF C3 H6 O3

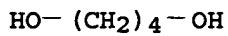
CM 2

CRN 542-28-9
CMF C5 H8 O2

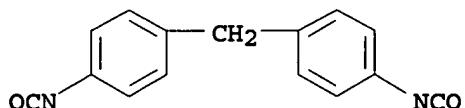
CM 3

CRN 111-46-6
CMF C4 H10 O3

CM 4

CRN 110-63-4
CMF C4 H10 O2

CM 5

CRN 101-68-8
CMF C15 H10 N2 O2

IC ICM C08G063-64
 ICS C08G018-44
 CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 38, 39

IT 209729-41-9P, Diethylene glycol-dimethyl carbonate-ε-caprolactone block copolymer 209729-42-0P, 1,4-Butanediol-dimethyl carbonate-ε-caprolactone block copolymer 209729-43-1P, Dimethyl carbonate-1,6-hexanediol-ε-caprolactone block copolymer 209729-44-2P, Diethylene glycol-dimethyl carbonate-ε-caprolactone-tripropylene glycol block copolymer 209729-45-3P, Diethylene glycol-dimethyl carbonate-δ-valerolactone block copolymer 209729-46-4P, Diethylene glycol-dimethyl carbonate-L-lactide block copolymer 209729-48-6P, Dimethyl carbonate-ε-caprolactone-1,6-hexanediol-norbornene dimethanol block copolymer (polycarbonate copolyester diols preparation and use for polyurethane elastomers having heat and oil resistance and good mech. properties)

IT 209729-49-7P, 1,4-Butanediol-diethylene glycol-dimethyl carbonate-ε-caprolactone-MDI block copolymer 209729-50-0P, 1,4-Butanediol-dimethyl carbonate-ε-caprolactone-MDI block copolymer 209729-51-1P, 1,4-Butanediol-dimethyl carbonate-1,6-hexanediol-ε-caprolactone-MDI block copolymer 209729-52-2P, 1,4-Butanediol-diethylene glycol-dimethyl carbonate-ε-caprolactone-MDI-tripropylene glycol block copolymer 209729-53-3P, 1,4-Butanediol-diethylene glycol-dimethyl carbonate-MDI-δ-valerolactone block copolymer (rubber; polycarbonate copolyester diols preparation and use for polyurethane elastomers having heat and oil resistance and good mech. properties)

L54 ANSWER 43 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:657026 HCAPLUS
 DOCUMENT NUMBER: 127:307811
 TITLE: Polycarbonate-polyether polyols and their manufacture and use
 INVENTOR(S): Greco, Alberto
 PATENT ASSIGNEE(S): Enichem S.P.A., Italy
 SOURCE: Eur. Pat. Appl., 16 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|-----------------|--------------|
| EP 798328 | A2 | 19971001 | EP 1997-103962 | 1997 0310 |
| EP 798328 R: DE, FR, GB US 5847069 | A3 | 19980121 | <-- | |
| | A | 19981208 | US 1997-818899 | 1997 0317 |
| JP 10007788 | A2 | 19980113 | JP 1997-78538 | 1997 0328 |
| | | | <-- | |

PRIORITY APPLN. INFO.:

IT 1996-MI614

A

1996
0328

<--

AB A process is described for the preparation of polycarbonate-polyoxyalkylene polyols characterized in that di-Me carbonate (DMC) and one or more polyoxyalkylene diols are reacted at a ratio DMC/polyoxyalkylene diols of between 0.5 and 1.35, at a temperature of between 130° and 185°C and in the presence of a catalyst consisting of an oxide, a carbonate or an alcoholate of a metal of the first or second Periodic group or a salt or organometallic compound of a metal belonging to the third or fourth or fifth Periodic group at a concentration of between 0.0001 and 0.01%. The polymers exhibit mol. weight 500-5000, color <200 APHA, and OH functionality >99% with respect to the theor. value and are useful for polyurethanes. Thus, 2200 g diethylene glycol was polymerized with 2350 g DMC in the presence of CaO at 155° and atmospheric pressure and at 170-173° and 1 mmHg while a DMC-MeOH azeotrope was removed by distillation to give a polymer with OH number 56.2 mg KOH/g and color 20-30 APHA.

IT 196871-47-3P 197247-09-9P 197247-14-6P

(manufacture of polycarbonate-polyoxyalkylene polyols for polyurethanes)

RN 196871-47-3 HCPLUS

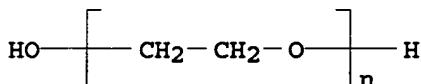
CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -hydroxypoly(oxy-1,2-ethanediyl) and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3

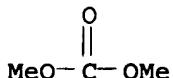
CMF (C₂ H₄ O)_n H₂ O

CCI PMS



CM 2

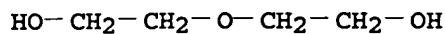
CRN 616-38-6

CMF C₃ H₆ O₃

CM 3

CRN 111-46-6

CMF C₄ H₁₀ O₃



RN 197247-09-9 HCAPLUS

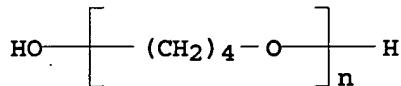
CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C₄ H₈ O)_n H₂ O

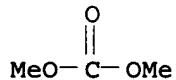
CCI PMS



CM 2

CRN 616-38-6

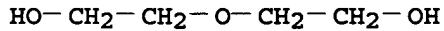
CMF C₃ H₆ O₃



CM 3

CRN 111-46-6

CMF C₄ H₁₀ O₃



RN 197247-14-6 HCAPLUS

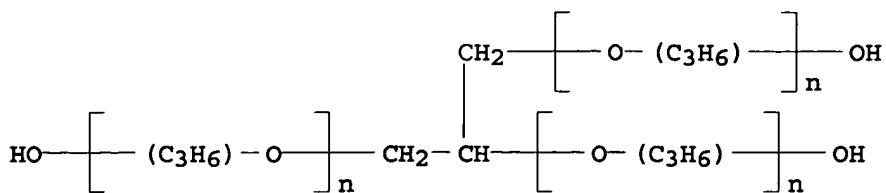
CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)], [(1-methyl-1,2-ethanediyl)bis(oxy)]bis[propanol] and α,α',α'' -1,2,3-propanetriyltris[ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)]], block (9CI) (CA INDEX NAME)

CM 1

CRN 25791-96-2

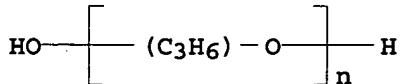
CMF (C₃ H₆ O)_n (C₃ H₆ O)_n (C₃ H₆ O)_n C₃ H₈ O₃

CCI IDS, PMS



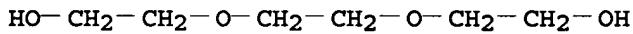
CM 2

CRN 25322-69-4
 CMF (C₃H₆O)_n H₂O
 CCI IDS, PMS



CM 3

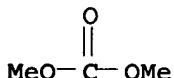
CRN 24800-44-0
 CMF C₉H₂₀O₄
 CCI IDS



3 (D1-Me)

CM 4

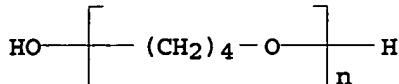
CRN 616-38-6
 CMF C₃H₆O₃



IT 197247-16-8P
 (thermoplastic elastomer; manufacture of polycarbonate-polyoxyalkylene polyols for polyurethanes)
 RN 197247-16-8 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl), 1,1'-methylenebis[4-isocyanatobenzene] and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

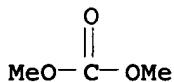
CM 1

CRN 25190-06-1
 CMF (C₄ H₈ O)_n H₂ O
 CCI PMS



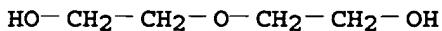
CM 2

CRN 616-38-6
 CMF C₃ H₆ O₃



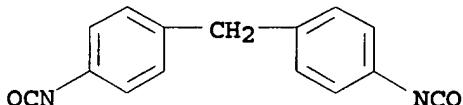
CM 3

CRN 111-46-6
 CMF C₄ H₁₀ O₃



CM 4

CRN 101-68-8
 CMF C₁₅ H₁₀ N₂ O₂



IC ICM C08G064-30
 ICS C08G064-18; C08G018-44
 CC 35-5 (Chemistry of Synthetic High Polymers)
 IT 29011-12-9P, Diethylene glycol-dimethyl carbonate copolymer, sru
 196871-47-3P 197247-08-8P, Diethylene glycol-dimethyl
 carbonate copolymer 197247-09-9P 197247-10-2P
 197247-11-3P 197247-12-4P 197247-13-5P 197247-14-6P
 197367-88-7P
 (manufacture of polycarbonate-polyoxyalkylene polyols for
 polyurethanes)
 IT 197247-15-7P 197247-16-8P 197247-17-9P 197367-89-8P
 (thermoplastic elastomer; manufacture of polycarbonate-
 polyoxyalkylene polyols for polyurethanes)

L54 ANSWER 44 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1997:657025 HCAPLUS
 DOCUMENT NUMBER: 127:293793
 TITLE: Two-stage process for the preparation of polycarbonate-polyether diols
 INVENTOR(S): Greco, Alberto
 PATENT ASSIGNEE(S): Enichem S.P.A., Italy
 SOURCE: Eur. Pat. Appl., 14 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|-----------------|-------------------|
| EP 798327 | A2 | 19971001 | EP 1997-103961 | 1997 0310 |
| EP 798327 R: DE, FR, GB US 5795952 | A3 | 19980121 | | <-- |
| | A | 19980818 | US 1997-818939 | 1997 0317 |
| JP 10045678 | A2 | 19980217 | JP 1997-78417 | 1997 0328 |
| PRIORITY APPLN. INFO.: | | | IT 1996-MI615 | A 1996 0328 |

AB Polycarbonate-polyoxyalkylene diols with low color and accurately controlled mol. weight of 500-5000, are manufactured by polymerization of di-Me carbonate (I) with the polyoxyalkylene diols at 140-185° in the presence of a basic catalyst selected from the group consisting of an oxide, a hydroxide, a carbonate or an alcoholate of a metal belonging to the group of alkali or alkaline-earth metals and transesterification of the catalyst- and I-free bis(di-Me carbonates) of polyoxyalkylene polycarbonate diols with addnl. polyoxyalkylene diol in the presence of in the presence of a solvent and an 0.0001-0.001% organometallic catalyst selected from compds. of tin, lead, titanium, zirconium and antimony. The products are as additives in the field of polyurethane end-products, thermoelastomers, paints and adhesives.

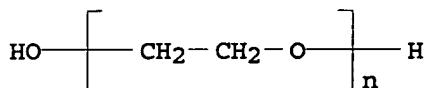
IT 196871-47-3P
 (two-stage preparation of polycarbonate-polyoxyalkylene diols)

RN 196871-47-3 HCAPLUS

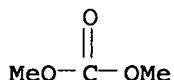
CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -hydroxypoly(oxy-1,2-ethanediyl) and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

CM 1

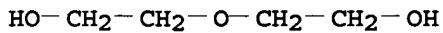
CRN 25322-68-3
 CMF (C₂ H₄ O)_n H₂ O
 CCI PMS



CM 2

CRN 616-38-6
CMF C3 H6 O3

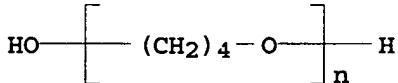
CM 3

CRN 111-46-6
CMF C4 H10 O3

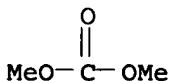
IT 171926-77-5P 196871-48-4P 196871-49-5P
 (two-stage preparation of polycarbonate-polyoxyalkylene diols from
 di-Me carbonate)

RN 171926-77-5 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -
 hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1
CMF (C4 H8 O)n H2 O
CCI PMS

CM 2

CRN 616-38-6
CMF C3 H6 O3

RN 196871-48-4 HCPLUS

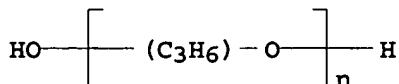
CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

CM 1

CRN 25322-69-4

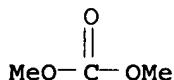
CMF (C₃ H₆ O)_n H₂ O

CCI IDS, PMS



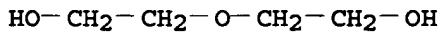
CM 2

CRN 616-38-6

CMF C₃ H₆ O₃

CM 3

CRN 111-46-6

CMF C₄ H₁₀ O₃

RN 196871-49-5 HCPLUS

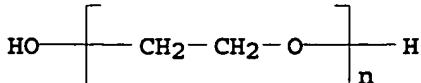
CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -hydroxypoly(oxy-1,2-ethanediyl) and oxybis[propanol] (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3

CMF (C₂ H₄ O)_n H₂ O

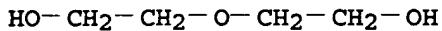
CCI PMS



CM 2

CRN 25265-71-8

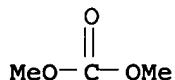
CMF C6 H14 O3
CCI IDS



2 (D1-Me)

CM 3

CRN 616-38-6
CMF C3 H6 O3



IC ICM C08G064-30
ICS C08G064-18; C08G018-44
CC 35-5 (Chemistry of Synthetic High Polymers)
IT 196871-47-3P
(two-stage preparation of polycarbonate-polyoxyalkylene diols)
IT 171926-77-5P 196871-48-4P 196871-49-5P
(two-stage preparation of polycarbonate-polyoxyalkylene diols from
di-Me carbonate)

L54 ANSWER 45 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:168097 HCAPLUS
DOCUMENT NUMBER: 126:164301
TITLE: Water-soluble photosensitive resin composition
useful in production of printing plate
INVENTOR(S): Takanashi, Hiroshi; Kudo, Tomoya
PATENT ASSIGNEE(S): Tokyo Ohka Kogyo Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|--------------|
| JP 08328249 | A2 | 19961213 | JP 1995-157148 | 1995 0531 |

PRIORITY APPLN. INFO.: JP 1995-157148
1995
0531

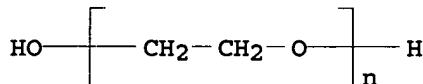
AB The title composition contains (a) a water-soluble polymer, (b) a urethanized polycarbonate having 20-80 wt% hydrophilic group, (c) a hydrophobic polymer, (e) an unsatd. compound having radically

polymerizable ethylenic double bond, and (e) a photopolymn. initiator. The polycarbonate may have (meth)acryloyl group added to ≥ 1 of the termini and the hydrophilic group may contain $\text{CH}_2\text{CH}_2\text{O}$ as repeating unit with average mol. weight 100-100,000 which may have CO_2M group ($\text{M} = \text{H}$, alkali metal, amine, ammonium). The composition provides a high quality printing plates with high mech. strength, printing durability, and ink adhesion without influence of moisture conditions. Thus, a polycarbonate from polyethylene glycol, 1,6-hexanediol, and di-Me carbonate was reacted with hexamethylene diisocyanate to give an urethanized polycarbonate. A photosensitive resin composition was prepared by using the modified polycarbonate, poly(vinyl alc.), Superflex E 4500 (ether-type polyurethane emulsion), polyethylene glycol diacrylate, and benzyl di-Me ketal.

IT 186968-43-4P, Dimethyl carbonate-hexamethylene diisocyanate-1,6-hexanediol-polyethylene glycol copolymer (hydrophilic; water-soluble photosensitive polymer composition for printing plate)
 RN 186968-43-4 HCPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,6-diisocyanatohexane, 1,6-hexanediol and α -hydro- ω -hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3
 CMF (C₂ H₄ O)_n H₂ O
 CCI PMS



CM 2

CRN 822-06-0
 CMF C₈ H₁₂ N₂ O₂

OCN-(CH₂)₆-NCO

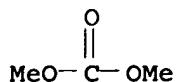
CM 3

CRN 629-11-8
 CMF C₆ H₁₄ O₂

HO-(CH₂)₆-OH

CM 4

CRN 616-38-6
 CMF C₃ H₆ O₃



IT 186968-44-5P, Dimethyl carbonate-dimethylolpropionic acid-hexamethylene diisocyanate-1,6-hexanediol-polyethylene glycol copolymer
(water-soluble photosensitive polymer composition for printing plate)

RN 186968-44-5 HCAPLUS

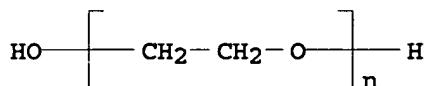
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 1,6-diisocyanatohexane, dimethyl carbonate, 1,6-hexanediol and α -hydro- ω -hydroxypoly(oxy-1,2-ethanediyl) (9CI)
(CA INDEX NAME)

CM 1

CRN 25322-68-3

CMF (C₂ H₄ O)_n H₂ O

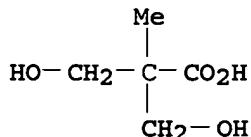
CCI PMS



CM 2

CRN 4767-03-7

CMF C₅ H₁₀ O₄



CM 3

CRN 822-06-0

CMF C₈ H₁₂ N₂ O₂



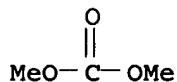
CM 4

CRN 629-11-8

CMF C₆ H₁₄ O₂



CM 5

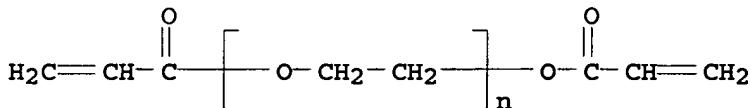
CRN 616-38-6
CMF C3 H6 O3

IT 186968-45-6P, Dimethyl carbonate-hexamethylene diisocyanate-1,6-hexanediol-2-hydroxyethyl acrylate-polyethylene glycol-polyethylene glycol diacrylate copolymer (water-soluble photosensitive polymer composition for printing plate)

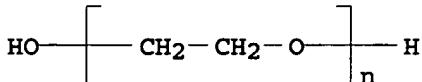
RN 186968-45-6 HCPLUS

CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,6-diisocyanatohexane, dimethyl carbonate, 1,6-hexanediol, α -hydro- ω -hydroxypoly(oxy-1,2-ethanediyl) and α -(1-oxo-2-propenyl)- ω -[(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26570-48-9
CMF (C2 H4 O)n C6 H6 O3
CCI PMS

CM 2

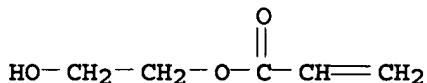
CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS

CM 3

CRN 822-06-0
CMF C8 H12 N2 O2

OCN—(CH₂)₆—NCO

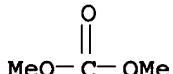
CM 4

CRN 818-61-1
CMF C5 H8 O3

CM 5

CRN 629-11-8
CMF C6 H14 O2HO—(CH₂)₆—OH

CM 6

CRN 616-38-6
CMF C3 H6 O3

IC ICM G03F007-027
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s) : 38
 IT 186968-43-4P, Dimethyl carbonate-hexamethylene
 diisocyanate-1,6-hexanediol-polyethylene glycol copolymer
 (hydrophilic; water-soluble photosensitive polymer composition for
 printing plate)
 IT 57636-10-9P, Polyethylene glycol diacrylate homopolymer
 75663-31-9P, N-Methylolacrylamide-vinyl alcohol copolymer
 186968-44-5P, Dimethyl carbonate-dimethylolpropionic
 acid-hexamethylene diisocyanate-1,6-hexanediol-polyethylene glycol
 copolymer
 (water-soluble photosensitive polymer composition for printing plate)
 IT 186968-45-6P, Dimethyl carbonate-hexamethylene
 diisocyanate-1,6-hexanediol-2-hydroxyethyl acrylate-polyethylene
 glycol-polyethylene glycol diacrylate copolymer
 (water-soluble photosensitive polymer composition for printing plate)

L54 ANSWER 46 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1997:21148 HCPLUS
 DOCUMENT NUMBER: 126:48442

TITLE: Chipping-resistant polyurethane-based intermediate coating compositions for automobiles
 INVENTOR(S): Sumitomo, Yasuo; Nakayama, Fumitaka
 PATENT ASSIGNEE(S): Shinto Paint Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------------------------|------|----------|-----------------|------|
| JP 08269394 | A2 | 19961015 | JP 1995-96317 | |
| | | | | 1995 |
| | | | | 0328 |
| <-- | | | | |
| PRIORITY APPLN. INFO.: JP 1995-96317 | | | | |
| | | | | 1995 |
| | | | | 0328 |
| <-- | | | | |

AB The compns. contain 0-90:10-100 mixts. of (A) polyurethanes with weight-average mol. weight (Mw) 2000-20,000 and (B) polycarbonate diols with Mw 500-4000, (C) blocked polyisocyanates, and (D) microgels with particle size 0.2-1.5 μm . Thus, applying a composition containing hexamethylene diisocyanate-Placel 305 copolymer (Mw 8000) 50, di-Me carbonate-1,6-hexanediol-polytetramethylene glycol copolymer (Mw 1900) 50, Burnock DB 980K 66, Grandoll PP 2000S 2.6, xylene 72.5, TiO₂ 25, and carbon black 0.2 part on a steel sheet and then applying a polyester-melamine coating gave a test piece showing good chipping and water resistance.

IT 184700-18-3P 184700-19-4P 184700-20-7P
 (chipping-resistant polyurethane-based intermediate coatings for automobiles)

RN 184700-18-3 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with Burnock DB 980K, 1,6-hexanediol and α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl), block (9CI) (CA INDEX NAME)

CM 1

CRN 175834-23-8

CMF Unspecified

CCI PMS, MAN

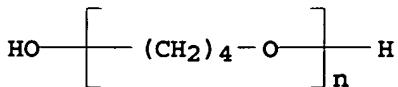
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 25190-06-1

CMF (C₄H₈O)_nH₂O

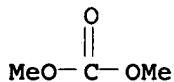
CCI PMS



CM 3

CRN 629-11-8
CMF C6 H14 O2HO—(CH₂)₆—OH

CM 4

CRN 616-38-6
CMF C3 H6 O3

RN 184700-19-4 HCAPLUS

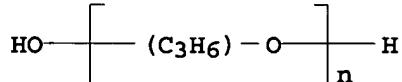
CN Carbonic acid, dimethyl ester, polymer with Burnock DB 980K,
1,6-hexanediol and α -hydro- ω -hydroxypoly[oxy(methyl-
1,2-ethanediyl)], block (9CI) (CA INDEX NAME)

CM 1

CRN 175834-23-8
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

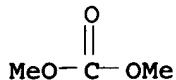
CRN 25322-69-4
CMF (C₃ H₆ O)_n H₂ O
CCI IDS, PMS

CM 3

CRN 629-11-8
CMF C6 H14 O2HO—(CH₂)₆—OH

CM 4

CRN 616-38-6
CMF C3 H6 O3



RN 184700-20-7 HCAPLUS
CN Carbonic acid, dimethyl ester, polymer with Duranate E 402B80T,
1,6-hexanediol and α -hydro- ω -hydroxypoly(oxy-1,4-
butanediyl), block (9CI) (CA INDEX NAME)

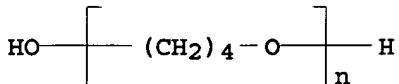
CM 1

CRN 182761-20-2
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 25190-06-1
CMF (C₄ H₈ O)_n H₂ O
CCI PMS



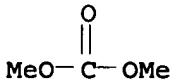
CM 3

CRN 629-11-8
CMF C₆ H₁₄ O₂

HO- (CH₂)₆- OH

CM 4

CRN 616-38-6
CMF C3 H6 O3



IC ICM C09D175-04
ICS C09D175-04; C09D005-00; C09D005-04
CC 42-10 (Coatings, Inks, and Related Products)

IT 39323-37-0P, Isophorone diisocyanate-polypropylene glycol copolymer 104105-06-8P 184700-18-3P
184700-19-4P 184700-20-7P
 (chipping-resistant polyurethane-based intermediate coatings for automobiles)

L54 ANSWER 47 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:4549 HCAPLUS
 DOCUMENT NUMBER: 126:33188
 TITLE: Chipping-resistant polycarbonate-polyester-polyurethane intermediate coating compositions for automobiles
 INVENTOR(S): Sumitomo, Yasuo; Nakayama, Fumitaka
 PATENT ASSIGNEE(S): Shinto Paint Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|--------------|
| JP 08269396 | A2 | 19961015 | JP 1995-96319 | 1995 0328 |

PRIORITY APPLN. INFO.: JP 1995-96319
 1995
0328

<--

AB The compns. contain 0-90:10-100 mixts. of (A) polyester polyols with OH value 50-400 (mg KOH/g) and (B) polycarbonate diols with weight-average mol. weight (Mw) 500-4000, (C) blocked polyisocyanates, and (D) microgels with particle size 0.2-1.5 μ m. Thus, applying a composition containing adipic acid-neopentyl glycol-phthalic anhydride-trimethylolpropane copolymer (OH value 170) 50, di-Me carbonate-1,6-hexanediol-polytetramethylene glycol copolymer 50, Burnock DB 980K 80, Grandoll PP 2000S 2.8, xylene 76.2, TiO2 25, and carbon black 0.2 part on a steel sheet and then applying a polyester-melamine coating gave a test piece showing good chipping and water resistance.

IT 184706-26-1P 184706-27-2P 184706-28-3P
 (chipping-resistant polycarbonate-polyester-polyurethane intermediate coatings containing microgel particles for automobiles)

RN 184706-26-1 HCAPLUS

CN Hexanedioic acid, polymer with Burnock DB 980K, dimethyl carbonate, 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol, α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) and 1,3-isobenzofurandione (9CI) (CA INDEX NAME)

CM 1

CRN 175834-23-8

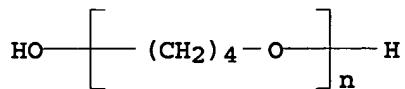
CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 25190-06-1
 CMF (C₄ H₈ O)_n H₂ O
 CCI PMS



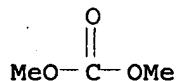
CM 3

CRN 629-11-8
 CMF C₆ H₁₄ O₂



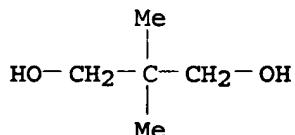
CM 4

CRN 616-38-6
 CMF C₃ H₆ O₃



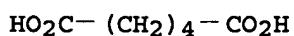
CM 5

CRN 126-30-7
 CMF C₅ H₁₂ O₂

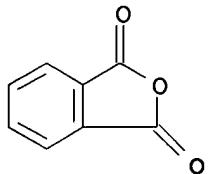


CM 6

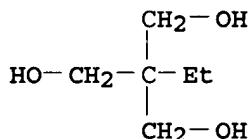
CRN 124-04-9
 CMF C₆ H₁₀ O₄



CM 7

CRN 85-44-9
CMF C8 H4 O3

CM 8

CRN 77-99-6
CMF C6 H14 O3

RN 184706-27-2 HCAPLUS

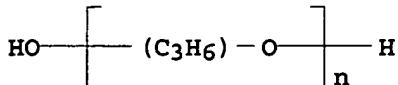
CN Hexanedioic acid, polymer with Burnock DB 980K, dimethyl carbonate, 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol, α -hydro- ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,3-isobenzofurandione (9CI) (CA INDEX NAME)

CM 1

CRN 175834-23-8
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 25322-69-4
CMF (C₃ H₆ O)_n H₂ O
CCI IDS, PMS

CM 3

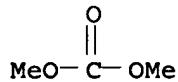
CRN 629-11-8

CMF C6 H14 O2



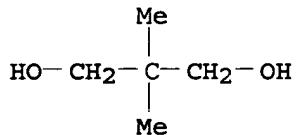
CM 4

CRN 616-38-6
 CMF C3 H6 O3



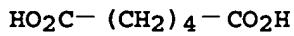
CM 5

CRN 126-30-7
 CMF C5 H12 O2



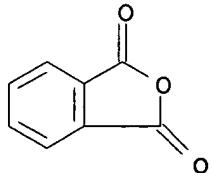
CM 6

CRN 124-04-9
 CMF C6 H10 O4



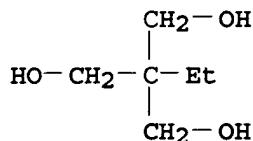
CM 7

CRN 85-44-9
 CMF C8 H4 O3



CM 8

CRN 77-99-6
 CMF C6 H14 O3



RN 184706-28-3 HCAPLUS
 CN Hexanedioic acid, polymer with dimethyl carbonate,
 2,2-dimethyl-1,3-propanediol, Duranate E 402B80T,
 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol,
 α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) and
 1,3-isobenzofurandione (9CI) (CA INDEX NAME)

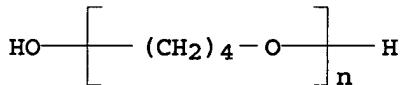
CM 1

CRN 182761-20-2
 CMF Unspecified
 CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 25190-06-1
 CMF (C4 H8 O)n H2 O
 CCI PMS



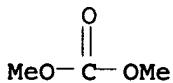
CM 3

CRN 629-11-8
 CMF C6 H14 O2

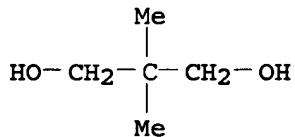
HO-(CH₂)₆-OH

CM 4

CRN 616-38-6
 CMF C3 H6 O3



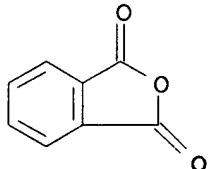
CM 5

CRN 126-30-7
CMF C5 H12 O2

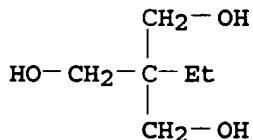
CM 6

CRN 124-04-9
CMF C6 H10 O4

CM 7

CRN 85-44-9
CMF C8 H4 O3

CM 8

CRN 77-99-6
CMF C6 H14 O3

IC ICM C09D175-04

ICS C09D175-04; C09D005-00

CC 42-10 (Coatings, Inks, and Related Products)

IT 184706-26-1P 184706-27-2P 184706-28-3P

(chipping-resistant polycarbonate-polyester-polyurethane intermediate coatings containing microgel particles for automobiles)

L54 ANSWER 48 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1997:4548 HCAPLUS
 DOCUMENT NUMBER: 126:33187
 TITLE: Chipping-resistant polycarbonate-polyester-polyurethane intermediate coating compositions for automobiles
 INVENTOR(S): Sumitomo, Yasuo; Nakayama, Fumitaka
 PATENT ASSIGNEE(S): Shinto Paint Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|---------------|----------|-----------------|------|
| JP 08269395 | A2 | 19961015 | JP 1995-96318 | |
| | | | | 1995 |
| | | | | 0328 |
| <-- | | | | |
| PRIORITY APPLN. INFO.: | JP 1995-96318 | | | |
| | <-- | | | |
| | 1995 | | | |
| | 0328 | | | |

AB The compns. contain 0-90:10-100 mixts. of (A) polyester polyols with OH value 50-400 (mg KOH/g) and (B) polycarbonate diols with weight-average mol. weight (Mw) 500-4000 and (C) blocked polyisocyanates. Thus, applying a composition containing adipic acid-neopentyl glycol-phthalic anhydride-trimethylolpropane copolymer (OH value 170) 50, di-Me carbonate-1,6-hexanediol-polytetramethylene glycol copolymer (Mw 1900) 50, Burnock DB 980K 80, xylene 74.3, TiO₂ 25, and carbon black 0.2 part on a steel sheet and then applying a polyester-melamine coating gave a test piece showing good chipping and water resistance.

IT 184706-26-1P, Adipic acid-Burnock DB 980K-dimethyl carbonate-1,6-hexanediol-neopentyl glycol-phthalic anhydride-polytetramethylene glycol-trimethylolpropane copolymer 184706-27-2P 184706-28-3P (chipping-resistant polycarbonate-polyester-polyurethane intermediate coatings for automobiles)

RN 184706-26-1 HCAPLUS

CN Hexanedioic acid, polymer with Burnock DB 980K, dimethyl carbonate, 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol, α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) and 1,3-isobenzofurandione (9CI) (CA INDEX NAME)

CM 1

CRN 175834-23-8

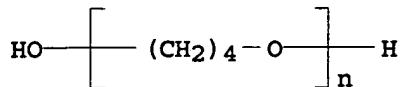
CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

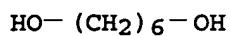
CM 2

CRN 25190-06-1
 CMF (C₄ H₈ O)_n H₂ O
 CCI PMS



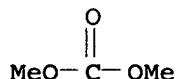
CM 3

CRN 629-11-8
 CMF C₆ H₁₄ O₂



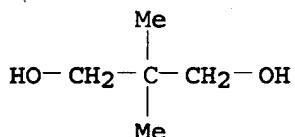
CM 4

CRN 616-38-6
 CMF C₃ H₆ O₃



CM 5

CRN 126-30-7
 CMF C₅ H₁₂ O₂



CM 6

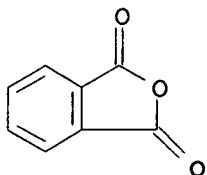
CRN 124-04-9
 CMF C₆ H₁₀ O₄



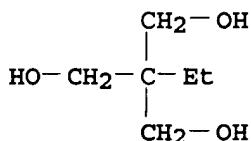
CM 7

CRN 85-44-9

CMF C8 H4 O3



CM 8

CRN 77-99-6
CMF C6 H14 O3

RN 184706-27-2 HCAPLUS

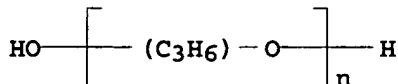
CN Hexanedioic acid, polymer with Burnock DB 980K, dimethyl carbonate, 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol, α -hydro- ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,3-isobenzofurandione (9CI) (CA INDEX NAME)

CM 1

CRN 175834-23-8
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 25322-69-4
CMF (C3 H6 O)n H2 O
CCI IDS, PMS

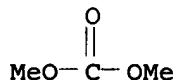
CM 3

CRN 629-11-8
CMF C6 H14 O2



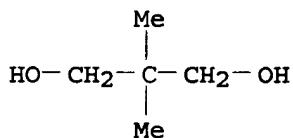
CM 4

CRN 616-38-6
 CMF C3 H6 O3



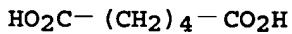
CM 5

CRN 126-30-7
 CMF C5 H12 O2



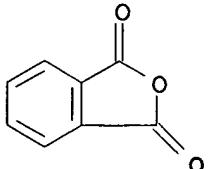
CM 6

CRN 124-04-9
 CMF C6 H10 O4



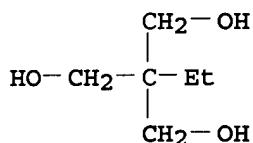
CM 7

CRN 85-44-9
 CMF C8 H4 O3



CM 8

CRN 77-99-6
 CMF C6 H14 O3



RN 184706-28-3 HCAPLUS

CN Hexanedioic acid, polymer with dimethyl carbonate,
 2,2-dimethyl-1,3-propanediol, Duranate E 402B80T,
 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol,
 α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) and
 1,3-isobenzofurandione (9CI) (CA INDEX NAME)

CM 1

CRN 182761-20-2

CMF Unspecified

CCI PMS, MAN

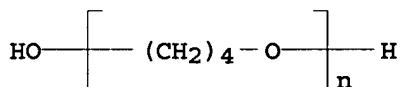
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 25190-06-1

CMF (C₄ H₈ O)_n H₂ O

CCI PMS



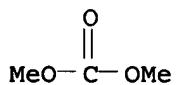
CM 3

CRN 629-11-8

CMF C₆ H₁₄ O₂HO-(CH₂)₆-OH

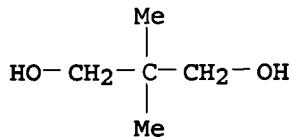
CM 4

CRN 616-38-6

CMF C₃ H₆ O₃

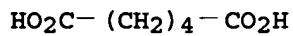
CM 5

CRN 126-30-7
CMF C5 H12 O2



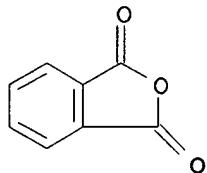
CM 6

CRN 124-04-9
CMF C6 H10 O4



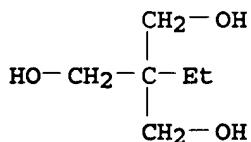
CM 7

CRN 85-44-9
CMF C8 H4 O3



CM 8

CRN 77-99-6
CMF C6 H14 O3



IC ICM C09D175-04
ICS C09D175-04; C09D005-00
CC 42-10 (Coatings, Inks, and Related Products)
IT 184706-26-1P, Adipic acid-Burnock DB 980K-dimethyl
carbonate-1,6-hexanediol-neopentyl glycol-phthalic
anhydride-polytetramethylene glycol-trimethylolpropane copolymer
184706-27-2P 184706-28-3P
(chipping-resistant polycarbonate-polyester-polyurethane
intermediate coatings for automobiles)

L54 ANSWER 49 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1997:4547 HCAPLUS
 DOCUMENT NUMBER: 126:33186
 TITLE: Chipping-resistant polyurethane-based intermediate coating compositions for automobiles
 INVENTOR(S): Sumitomo, Yasuo; Nakayama, Fumitaka
 PATENT ASSIGNEE(S): Shinto Paint Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|---------------|----------|-----------------|------|
| JP 08269393 | A2 | 19961015 | JP 1995-96316 | |
| | | | | 1995 |
| | | | | 0328 |
| <-- | | | | |
| PRIORITY APPLN. INFO.: | JP 1995-96316 | | | |
| | 1995 | | | |
| | 0328 | | | |
| <-- | | | | |

AB The compns. contain 0-90:10-100 mixts. of (A) polyurethanes with weight-average mol. weight (Mw) 2000-20,000 and (B) polycarbonate diols with Mw 500-4000 and (C) blocked polyisocyanates. Thus, applying a composition containing hexamethylene diisocyanate-Placel 305 copolymer (Mw 8000) 50, di-Me carbonate-1,6-hexanediol-polytetramethylene glycol copolymer (Mw 1900) 50, Burnock DB 980K 66, xylene 70.8, TiO2 25, and carbon black 0.2 part on a steel sheet and then applying a polyester-melamine coating gave a test piece showing good chipping and water resistance.

IT 184700-18-3P 184700-19-4P 184700-20-7P
 (chipping-resistant polyurethane-based intermediate coatings for automobiles)

RN 184700-18-3 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with Burnock DB 980K, 1,6-hexanediol and α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl), block (9CI) (CA INDEX NAME)

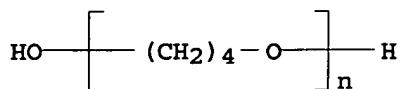
CM 1

CRN 175834-23-8
 CMF Unspecified
 CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

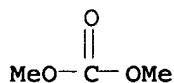
CRN 25190-06-1
 CMF (C4 H8 O)n H2 O
 CCI PMS



CM 3

CRN 629-11-8
CMF C6 H14 O2

CM 4

CRN 616-38-6
CMF C3 H6 O3

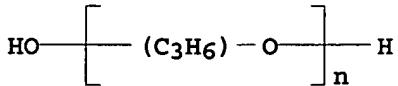
RN 184700-19-4 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with Burnock DB 980K,
 1,6-hexanediol and α -hydro- ω -hydroxypoly[oxy(methyl-
 1,2-ethanediyl)], block (9CI) (CA INDEX NAME)

CM 1

CRN 175834-23-8
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

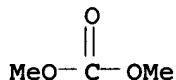
CRN 25322-69-4
CMF $(\text{C}_3\text{ H}_6\text{ O})_n$ H2 O
CCI IDS, PMS

CM 3

CRN 629-11-8
CMF C6 H14 O2

HO- (CH₂)₆- OH

CM 4

CRN 616-38-6
CMF C₃ H₆ O₃

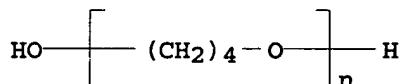
RN 184700-20-7 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with Duranate E 402B80T,
 1,6-hexanediol and α -hydro- ω -hydroxypoly(oxy-1,4-
 butanediyl), block (9CI) (CA INDEX NAME)

CM 1

CRN 182761-20-2
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

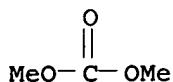
CRN 25190-06-1
CMF (C₄ H₈ O)_n H₂ O
CCI PMS

CM 3

CRN 629-11-8
CMF C₆ H₁₄ O₂HO- (CH₂)₆- OH

CM 4

CRN 616-38-6
CMF C₃ H₆ O₃



IC ICM C09D175-04
 ICS C09D175-04; C09D005-00
 CC 42-10 (Coatings, Inks, and Related Products)
 IT 39323-37-0P, Isophorone diisocyanate-polypropylene glycol
 copolymer 104105-06-8P 184700-18-3P
 184700-19-4P 184700-20-7P
 (chipping-resistant polyurethane-based intermediate coatings
 for automobiles)

L54 ANSWER 50 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:649570 HCAPLUS
 DOCUMENT NUMBER: 125:278771
 TITLE: Aqueous coating compositions and coating
 method
 INVENTOR(S): Ogawa, Hideaki; Nishi, Tadahiko; Tanabe,
 Hisanori; Takeuchi, Kunihiko
 PATENT ASSIGNEE(S): Nippon Paint Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| JP 08209059 | A2 | 19960813 | JP 1995-15895 | 1995 0202 |

PRIORITY APPLN. INFO.: <--
 JP 1995-15895
 1995
 0202

<--
 AB An aqueous coating composition with improved workability comprises (1) acrylic and/or polyester resins having number-average mol. weight 1000-50,000, acid value 10-100, and hydroxy value 20-300, (2) hydroxy-terminated polycarbonates with number-average mol. weight 1,000-10,000, (3) curing agents, and (4) urethane or melamine resin particles with particle size 0.01-1.0 μm . A two-coat-one-bake coating process is claimed, in which the above composition is applied on a object as base coating and then covered with a clear coat and baked. A coating composition of this invention contained 50 parts of a polyester resin of dimethylethanolamine neutralized ethylene glycol-trimethylolpropane-phthalic anhydride-trimellitic anhydride copolymer with number-average mol. weight 2000, acid value 50, and hydroxy value 60, 13 parts of a polycarbonate resin (number-average mol. weight 2350) prepared from di-Me carbonate, 3-methyl-1,5-pentanediol, and trimethylolpropane dimer, 20 parts of Cymel 303 (melamine resin), and 17 parts of urethane resin particles (particle size 0.02) made from dimethylolpropionic acid, isophorone diisocyanate, and polyhexamethylene carbonate diol, and other minor components.

IT 182679-56-7P 182679-58-9P

(aqueous coating compns. and coating method)

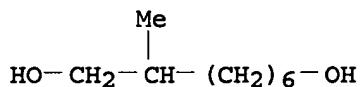
RN 182679-56-7 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol dimer, 2-methyl-1,8-octanediol and 1,9-nonanediol (9CI) (CA INDEX NAME)

CM 1

CRN 109359-36-6

CMF C9 H20 O2



CM 2

CRN 3937-56-2

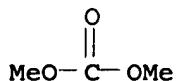
CMF C9 H20 O2



CM 3

CRN 616-38-6

CMF C3 H6 O3



CM 4

CRN 168261-07-2

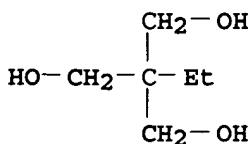
CMF (C6 H14 O3)2

CCI PMS

CM 5

CRN 77-99-6

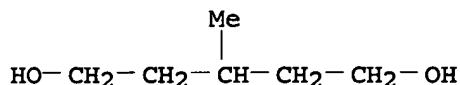
CMF C6 H14 O3



RN 182679-58-9 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol and 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

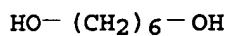
CM 1

CRN 4457-71-0
 CMF C6 H14 O2



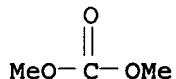
CM 2

CRN 629-11-8
 CMF C6 H14 O2



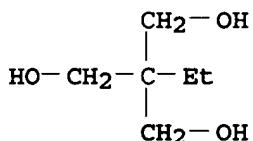
CM 3

CRN 616-38-6
 CMF C3 H6 O3



CM 4

CRN 77-99-6
 CMF C6 H14 O3



IC ICM C09D133-06
 ICS B05D001-36; B05D007-14; C09D161-28; C09D167-00; C09D167-08;
 C09D169-00; C09D175-04

CC 42-10 (Coatings, Inks, and Related Products)
 IT 77-99-6DP, alkyd resins 85-44-9DP, 1,3-Isobenzofurandione, alkyd resins 108-01-0DP, salts of alkyd resins 126-30-7DP, Neopentyl glycol, alkyd resins 552-30-7DP, alkyd resins 3089-11-0DP, reaction products with polypropylene triol 25322-69-4DP, triol,

reaction products with melamines 132229-71-1P 138720-98-6P
 182679-54-5P 182679-55-6P 182679-56-7P 182679-57-8P
 182679-58-9P 182679-59-0P 182679-61-4P 182679-63-6P
 182679-65-8P
 (aqueous coating compns. and coating method)

L54 ANSWER 51 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:987098 HCAPLUS

DOCUMENT NUMBER: 124:30541

TITLE: Poly(alkylene carbonate)s by the carbonate interchange reaction of aliphatic diols with dimethyl carbonate: synthesis and characterization

AUTHOR(S): Pokharkar, Varsha; Sivaram, S.

CORPORATE SOURCE: Div. Polymer Chem., National Chem. Lab., Pune, 411 008, India

SOURCE: Polymer (1995), 36(25), 4851-4
 CODEN: POLMAG; ISSN: 0032-3861

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Poly(alkylene carbonates) were prepared by the melt-phase interchange reaction of aliphatic diols with di-Me carbonate. Aliphatic polycarbonates with inherent viscosity 0.3-0.8 dL/g were obtained. Polycarbonates derived from alicyclic diols have Tg below room temperature and melting temperature 50-60°. However, the polycarbonate derived from 1,4-bis(hydroxymethyl)cyclohexane has Tg 35° and melting temperature 97°, the highest yet reported for this class of polymer.

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer
 146789-33-5P, 1,4-Butanediol-dimethyl carbonate copolymer
 171926-74-2P, Dimethyl carbonate-1,8-octanediol copolymer
 171926-77-5P, Dimethyl carbonate-poly(tetramethylene glycol) copolymer

(preparation, characterization and thermal properties of)

RN 101325-00-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)
 (CA INDEX NAME)

CM 1

CRN 629-11-8

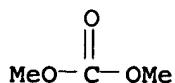
CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6

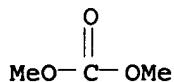
CMF C3 H6 O3



RN 146789-33-5 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol (9CI)
 (CA INDEX NAME)

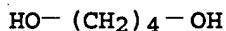
CM 1

CRN 616-38-6
 CMF C3 H6 O3



CM 2

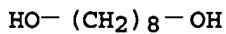
CRN 110-63-4
 CMF C4 H10 O2



RN 171926-74-2 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,8-octanediol (9CI)
 (CA INDEX NAME)

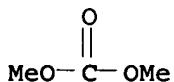
CM 1

CRN 629-41-4
 CMF C8 H18 O2



CM 2

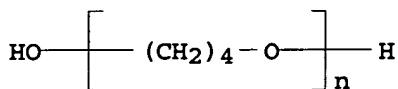
CRN 616-38-6
 CMF C3 H6 O3



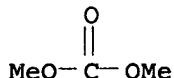
RN 171926-77-5 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1
 CMF (C4 H8 O)n H2 O
 CCI PMS



CM 2

CRN 616-38-6
CMF C3 H6 O3

CC 35-5 (Chemistry of Synthetic High Polymers)
 IT 24937-06-2P, Dimethyl carbonate-1,6-hexanediol copolymer sru
 25805-40-7P, 1,4-Butanediol-dimethyl carbonate copolymer sru
 26894-28-0P, 1,4-Cyclohexanedimethanol-dimethyl carbonate
 copolymer sru 101325-00-2P, Dimethyl
 carbonate-1,6-hexanediol copolymer 146789-33-5P,
 1,4-Butanediol-dimethyl carbonate copolymer 171926-74-2P
 , Dimethyl carbonate-1,8-octanediol copolymer 171926-75-3P,
 Dimethyl carbonate-1,8-octanediol copolymer sru 171926-76-4P,
 1,4-Cyclohexanedimethanol-dimethyl carbonate copolymer
 171926-77-5P, Dimethyl carbonate-poly(tetramethylene
 glycol) copolymer
 (preparation, characterization and thermal properties of)

L54 ANSWER 52 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:969519 HCAPLUS
 DOCUMENT NUMBER: 123:342861
 TITLE: Porous polyurethane sheet
 INVENTOR(S): Mizoguchi, Akinobu; Nakanishi, Shinji;
 Akasawa, Toshiyuki
 PATENT ASSIGNEE(S): Kuraray Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 17 pp.
 CODEN: EPXXDW

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------|------|----------|-----------------|--------------|
| EP 673962 | A1 | 19950927 | EP 1995-104137 | 1995 0321 |
| EP 673962 | B1 | 20000524 | | <-- |
| R: DE, FR, GB, IT | | | | |
| JP 07310289 | A2 | 19951128 | JP 1995-36422 | 1995 0224 |
| JP 3090860 | B2 | 20000925 | | <-- |

CN 1115769 A 19960131 CN 1995-103045
 1995
 0322

<--
 CN 1046298 B 19991110
 US 5648151 A 19970715 US 1995-408288
 1995
 0322

<--
 KR 173697 B1 19990320 KR 1995-6395
 1995
 0322

<--
 PRIORITY APPLN. INFO.: JP 1994-50524 A
 1994
 0322

<--
 AB A porous sheet is obtained by wet coagulating a polyurethane comprising a soft segment component of repeating units from a polycarbonate, those from a diethylene glycol-based polyester and those from a tetramethylene glycol-based polyester, and a hard segment component of an aromatic diisocyanate and ethylene glycol. The polyurethane has excellent processability such as wet coagulability and the porous sheet has good durability and flexibility, in particular flexibility at low temps. and is well usable for leather-like sheets.

IT 171189-11-0P 171189-12-1P
 (flexible porous polyurethane sheets with excellent durability for artificial leather)

RN 171189-11-0 HCAPLUS

CN Hexanedioic acid, polymer with 1,4-butanediol, dimethyl carbonate, 1,2-ethanediol, 1,6-hexanediol, 1,1'-methylenebis[4-isocyanatobenzene] and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

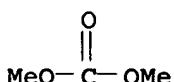
CM 1

CRN 629-11-8
 CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6
 CMF C3 H6 O3



CM 3

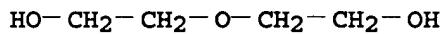
CRN 124-04-9

CMF C6 H10 O4



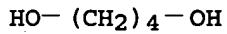
CM 4

CRN 111-46-6
 CMF C4 H10 O3



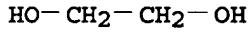
CM 5

CRN 110-63-4
 CMF C4 H10 O2



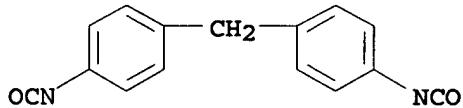
CM 6

CRN 107-21-1
 CMF C2 H6 O2



CM 7

CRN 101-68-8
 CMF C15 H10 N2 O2



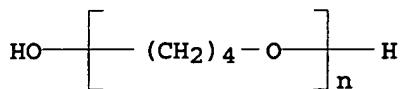
RN 171189-12-1 HCAPLUS

CN Hexanedioic acid, polymer with 1,4-butanediol, dimethyl carbonate, 1,2-ethanediol, 1,6-hexanediol, α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl), 1,1'-methylenebis[4-isocyanatobenzene] and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1
 CMF (C4 H8 O)n H2 O

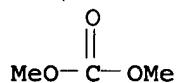
CCI PMS



CM 2

CRN 629-11-8
CMF C6 H14 O2

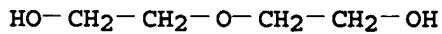
CM 3

CRN 616-38-6
CMF C3 H6 O3

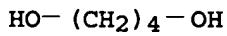
CM 4

CRN 124-04-9
CMF C6 H10 O4

CM 5

CRN 111-46-6
CMF C4 H10 O3

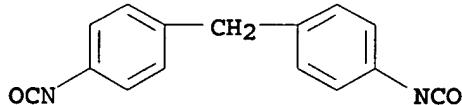
CM 6

CRN 110-63-4
CMF C4 H10 O2

CM 7

CRN 107-21-1
CMF C2 H6 O2HO—CH₂—CH₂—OH

CM 8

CRN 101-68-8
CMF C15 H10 N2 O2

IC ICM C08J005-18
 ICS D06N003-14; C08G018-44; C08G018-66
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 37
 IT 171189-11-0P 171189-12-1P 171189-13-2P
 (flexible porous polyurethane sheets with excellent durability
 for artificial leather)

L54 ANSWER 53 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1995:879169 HCPLUS
 DOCUMENT NUMBER: 124:57819
 TITLE: Thermally crosslinkable polyurethane emulsions
 INVENTOR(S): Wada, Shuichi; Sato, Kazuo; Sainai, Naofumi;
 Fujiwara, Tsuyoshi
 PATENT ASSIGNEE(S): Dai Ichi Kogyo Seiyaku Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|--------------|
| JP 07188373 | A2 | 19950725 | JP 1993-330779 | 1993 1227 |
| JP 3197130 | B2 | 20010813 | JP 1993-330779 | 1993 1227 |

AB The title emulsions are prepared from (A) polyamines with ≥ 2 active amino groups, (B) stoichiometric excess amts. of isocyanate-terminated urethane prepolymers, and (C) blocked

isocyanate-containing compds. Thus, adding an MEK oxime-blocked NCO-containing HMDI-trimethylolpropane adduct to an emulsion prepared from diethylenetriamine and a urethane derived from butylene glycol-adipic acid copolymer, trimethylolpropane, polyethylene glycol, propylene glycol-ethylene glycol random copolymer, 1,4-butanediol, and IPDI gave a title emulsion.

IT 172082-31-4P
(thermally crosslinkable polyurethane emulsions)

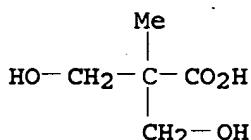
RN 172082-31-4 HCPLUS

CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with N-(2-aminoethyl)-1,2-ethanediamine, 1,4-butanediol, dimethyl carbonate, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

CM 1

CRN 4767-03-7

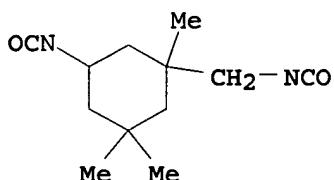
CMF C5 H10 O4



CM 2

CRN 4098-71-9

CMF C12 H18 N2 O2



CM 3

CRN 629-11-8

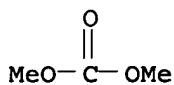
CMF C6 H14 O2

HO- (CH₂)₆-OH

CM 4

CRN 616-38-6

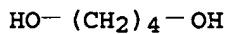
CMF C3 H6 O3



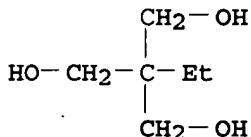
CM 5

CRN 111-40-0
CMF C4 H13 N3

CM 6

CRN 110-63-4
CMF C4 H10 O2

CM 7

CRN 77-99-6
CMF C6 H14 O3

IC ICM C08G018-32

ICS C08G018-10; C08G018-80; C08L075-02

CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s) : 38

IT 77-99-6DP, Trimethylolpropane, polymers with polyester polyols, polyether polyols, polyalkylenepolyamines and polyisocyanates
 110-63-4DP, 1,4-Butanediol, polymers with polycarboxylic acids, polyether polyols, polyalkylenepolyamines and polyisocyanates
 111-40-0DP, Diethylenetriamine, polymers with polyester polyols, polyether polyols and polyisocyanates 124-04-9DP, Adipic acid, polyester polyols, polymers with glycols, polyether polyols, polyalkylenepolyamines and polyisocyanates 822-06-0DP, HMDI, polymers with polyester polyols, polyether polyols, polyalkylenepolyamines and other polyisocyanates 4098-71-9DP, IPDI, polymers with polyester glycols, polyether polyols, polyalkylenepolyamines and other polyisocyanates 9003-11-6DP, Ethylene oxide-propylene oxide copolymer, polyols, polymers with polyether polyols, polyalkylenepolyamines and polyisocyanates 25322-68-3DP, PEG, polymers with glycols, polyester polyols, polyalkylenepolyamines and polyisocyanates 27193-25-5DP,

Cyclohexanedimethanol, polymers with polyester polyols, polyether polyols and polyisocyanates 172082-31-4P
(thermally crosslinkable polyurethane emulsions)

L54 ANSWER 54 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:693682 HCAPLUS
DOCUMENT NUMBER: 123:233146
TITLE: Synthetic lubricating oils having high resistance to hydrolysis and thermal degradation
INVENTOR(S): Iwamoto, Yoshiaki; Higaki, Juzo
PATENT ASSIGNEE(S): Nisshin Fine Chemical Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|--------------|
| JP 07118676 | A2 | 19950509 | JP 1993-284558 | 1993 1019 |

PRIORITY APPLN. INFO.: JP 1993-284558
1993
1019

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AB The oils contain polycondensates of neopentyl polyols, dialkyl carbonates, monohydric alcs., and optionally dihydric alcs. excluding dihydric neopentyl polyols. The oils are suitable for metalworking and lubrication.
IT 168395-67-3DP, reaction products with 2-ethylhexanol (lubricating oils containing polycondensates of neopentyl polyols and dialkyl carbonates and monohydric alcs. for high resistance to hydrolysis and thermal degradation)
RN 168395-67-3 HCAPLUS
CN Carbonic acid, dimethyl ester, polymer with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol and 1,9-nanenediol, 2-ethylhexyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 104-76-7
CMF C8 H18 O
$$\begin{array}{c} \text{CH}_2-\text{OH} \\ | \\ \text{Et}-\text{CH}-\text{Bu}-\text{n} \end{array}$$

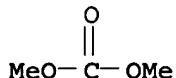
CM 2

CRN 168200-10-0
CMF (C9 H20 O2 . C6 H14 O3 . C3 H6 O3)x
CCI PMS

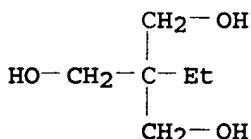
CM 3

CRN 3937-56-2
CMF C9 H20 O2HO—(CH₂)₉—OH

CM 4

CRN 616-38-6
CMF C3 H6 O3

CM 5

CRN 77-99-6
CMF C6 H14 O3

IC ICM C10M105-32

ICI C10N030-00, C10N030-08, C10N040-22, C10N040-24

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 35

IT 104-76-7DP, reaction products with di-Me carbonate-nanediol-trimethylolpropane copolymer 143-08-8DP, Nonanol, reaction products with di-Pr carbonate-neopentyl glycol copolymer 26248-42-0DP, Tridecanol, reaction products with di-Me carbonate-pentaerythritol-methylpentanediol copolymer 27458-93-1DP, Isostearyl alcohol, reaction products with di-Et carbonate-pentaerythritol copolymer 168395-67-3DP, reaction products with 2-ethylhexanol 168395-68-4DP, reaction products with nonanol 168395-69-5DP, reaction products with isostearyl alc. 168395-70-8DP, reaction products with tridecanol (lubricating oils containing polycondensates of neopentyl polyols and dialkyl carbonates and monohydric alcs. for high resistance to hydrolysis and thermal degradation)

L54 ANSWER 55 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:662429 HCPLUS

DOCUMENT NUMBER: 123:58028

TITLE: Manufacture of medical polyurethane-polyurea porous membranes

INVENTOR(S): Yoneda, Haruyuki

PATENT ASSIGNEE(S) : Asahi Chemical Ind, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------------|-----------------|--------------|
| JP 07053764 | A2 | 19950228 | JP 1993-222772 | 1993 0817 |
| <-- | | | | |
| PRIORITY APPLN. INFO.: | | JP 1993-222772 | | |
| | | 1993 0817 | | |
| <-- | | | | |

AB Medical polyurethane-polyurea porous membranes containing no impurities are manufactured by withdrawing from an aqueous solution (containing ≥ 70 weight% water) a film which is made by a wet or dry process from a 1st polyurethane-polyurea comprising alternating structural units $-\text{NHCO}(\text{OR}_1\text{O}_2\text{CNHR}_2\text{NHCO})_n\text{OR}_1\text{OCONHR}_2-$ and $-\text{NHCO}(\text{NHR}_3\text{NHCONHR}_2\text{NHCO})_m\text{NHR}_3\text{NHCONHR}_2-$ ($m = 0-10$; $n = 0-20$; R_1 = divalent polyethylene glycol group having two alkylene end groups; R_2 = divalent hydrocarbon group having a mol. weight of ≤ 500 ; R_3 = C₁₋₁₅ divalent hydrocarbon group) and a 2nd polyurethane-polyurea comprising a mixture of 0-40 mol% of a polyurethane-polyurea comprising the same structural units as above (m , n , R_2 , R_3 as above; R_1 = divalent polysiloxane group having two alkylene end groups) and 60-100 mol% of a polyurethane-polyurea comprising the same structural units as above (m , n , R_2 , R_3 as above; R_1 = divalent polyester and/or polycarbonate residue having two alkylene end groups, ≥ 1 of them being a C₂₋₈ alkylene group) at a weight ratio of 1:5 to 3:1.

IT 164721-39-5P 164721-41-9P
 (in manufacture of medical porous membrane)

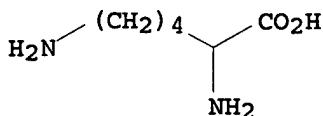
RN 164721-39-5 HCPLUS

CN Lysine, monosodium salt, polymer with 1,6-diisocyanatohexane, dimethyl carbonate, 1,7-heptanediol and 1,6-hexanediol, block (9CI) (CA INDEX NAME)

CM 1

CRN 163656-36-8

CMF C6 H14 N2 O2 . Na



● Na

CM 2

CRN 822-06-0
CMF C8 H12 N2 O2OCN—(CH₂)₆—NCO

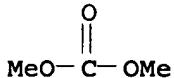
CM 3

CRN 629-30-1
CMF C7 H16 O2HO—(CH₂)₇—OH

CM 4

CRN 629-11-8
CMF C6 H14 O2HO—(CH₂)₆—OH

CM 5

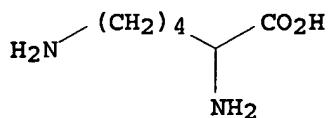
CRN 616-38-6
CMF C3 H6 O3

RN 164721-41-9 HCAPLUS

CN Lysine, monosodium salt, polymer with 1,6-diisocyanatohexane, dimethyl carbonate, 1,7-heptanediol, 1,6-hexanediol and α -[(3-hydroxypropyl)dimethylsilyl]- ω -[(3-hydroxypropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], block (9CI) (CA INDEX NAME)

CM 1

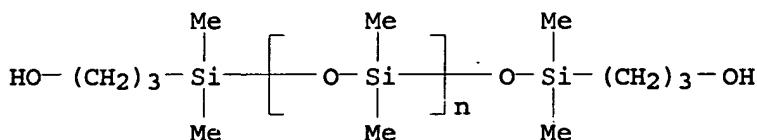
CRN 163656-36-8
CMF C6 H14 N2 O2 . Na



● Na

CM 2

CRN 58130-02-2
 CMF (C₂ H₆ O Si)_n C₁₀ H₂₆ O₃ Si₂
 CCI PMS



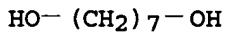
CM 3

CRN 822-06-0
 CMF C₈ H₁₂ N₂ O₂



CM 4

CRN 629-30-1
 CMF C₇ H₁₆ O₂



CM 5

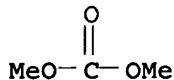
CRN 629-11-8
 CMF C₆ H₁₄ O₂



CM 6

CRN 616-38-6

CMF C3 H6 O3



IC ICM C08J009-28
 CC 38-2 (Plastics Fabrication and Uses)
 Section cross-reference(s): 63
 IT 106102-97-0P, Ethylenediamine-MDI-polyethylene glycol block
 copolymer 107375-35-9P 164721-38-4P 164721-39-5P
 164721-41-9P
 (in manufacture of medical porous membrane)

L54 ANSWER 56 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1995:547647 HCAPLUS
 DOCUMENT NUMBER: 122:322569
 TITLE: Antithrombotic polyurethane-urea for medical
 uses
 INVENTOR(S): Yoneda, Haruyuki
 PATENT ASSIGNEE(S): Asahi Chemical Ind, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| JP 07048431 | A2 | 19950221 | JP 1993-211022 | 1993 0804 |

PRIORITY APPLN. INFO.: JP 1993-211022
 1993
0804

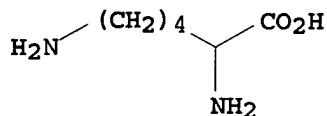
AB The title polymers, useful for biocompatible artificial organs, catheter, A-V shunt, etc., comprise polymers having alternative repeating units of $[R_2NHCO[OR_1O_2CNHR_2NHCO]_nOR_1O_2CNHR_2]$ and $[NHCO[NHR_3NHCONHR_2NHCO]_mNHR_3NHCONH]$ [95-60 mol% of $R_1 = C_3-8$ alkylene-terminated polyether or C_2-8 alkylene-terminated polyester and/or polycarbonate; 5-40 mol% of $R_1 =$ alkylene-terminated polysiloxane; $R_2 =$ divalent hydrocarbyl (mol. weight ≤ 500); $R_3 =$ residue of amino acid or biol. amines having 2 NH_2 groups]. Di-Me carbonate-hexamethylene diol-pentamethylene diol copolymer 30, propanol-terminated di-Me siloxane 10, and hexamethylene diisocyanate 60 mmol were treated with dibutyltin laurate in $MeCONMe_2$ at 60° for 3 h, then treated with aqueous solution of 20 mmol DL-lysine Na salt at 15° fro 2 h to give polyurethane-urea, which had 5% CH_5O and blood coagulation time 3.3 h by Lee-White method.

IT 163656-38-0P 163656-39-1P 163656-40-4P
 (antithrombotic polyurethane-polyurea for medical goods)
 RN 163656-38-0 HCAPLUS
 CN Lysine, sodium salt, polymer with 1,6-diisocyanatohexane, dimethyl

carbonate, 1,6-hexanediol, α -[(3-hydroxypropyl)dimethylsilyl]- ω -[[(3-hydroxypropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] and 1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

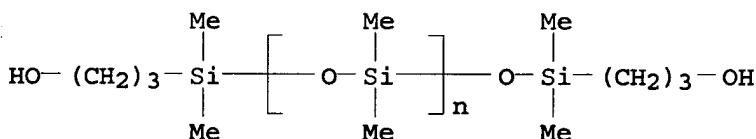
CRN 163656-36-8
CMF C6 H14 N2 O2 . Na



● Na

CM 2

CRN 58130-02-2
CMF (C2 H6 O Si)n C10 H26 O3 Si2
CCI PMS



CM 3

CRN 822-06-0
CMF C8 H12 N2 O2

OCN-(CH₂)₆-NCO

CM 4

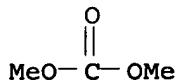
CRN 629-11-8
CMF C6 H14 O2

HO-(CH₂)₆-OH

CM 5

CRN 616-38-6

CMF C3 H6 O3

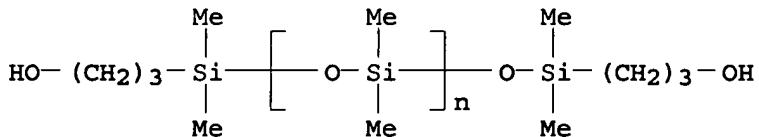


CM 6

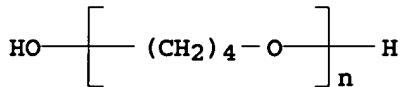
CRN 111-29-5
CMF C5 H12 O2

RN 163656-39-1 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 2,2'-dithiobis[ethanamine], 1,6-hexanediol, α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl), α -[(3-hydroxypropyl)dimethylsilyl]- ω [(3-hydroxypropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], 1,1'-methylenebis[4-isocyanatobenzene] and 1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 58130-02-2
CMF (C₂ H₆ O Si)_n C₁₀ H₂₆ O₃ Si₂
CCI PMS

CM 2

CRN 25190-06-1
CMF (C₄ H₈ O)_n H₂ O
CCI PMS

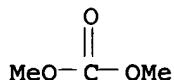
CM 3

CRN 629-11-8
CMF C₆ H₁₄ O₂

HO—(CH₂)₆—OH

CM 4

CRN 616-38-6
CMF C₃ H₆ O₃



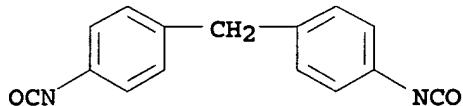
CM 5

CRN 111-29-5
CMF C₅ H₁₂ O₂

HO—(CH₂)₅—OH

CM 6

CRN 101-68-8
CMF C₁₅ H₁₀ N₂ O₂



CM 7

CRN 51-85-4
CMF C₄ H₁₂ N₂ S₂

H₂N—CH₂—CH₂—S—S—CH₂—CH₂—NH₂

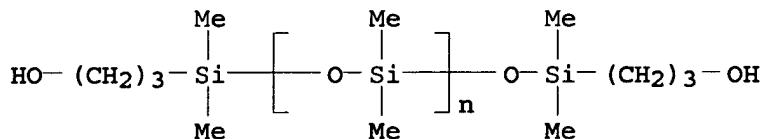
RN 163656-40-4 HCAPLUS

CN Lysine, polymer with dimethyl carbonate, 1,6-hexanediol, α -hydro- ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)], α -[(3-hydroxypropyl)dimethylsilyl]- ω -[[{(3-hydroxypropyl)dimethylsilyl]oxy}poly{oxy(dimethylsilylene)}], 1,1'-methylenebis[4-isocyanatobenzene] and 1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

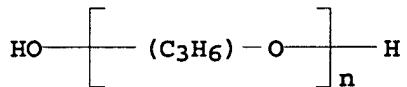
CRN 58130-02-2

CMF (C₂ H₆ O Si)_n C₁₀ H₂₆ O₃ Si₂
 CCI PMS



CM 2

CRN 25322-69-4
 CMF (C₃ H₆ O)_n H₂ O
 CCI IDS, PMS



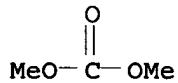
CM 3

CRN 629-11-8
 CMF C₆ H₁₄ O₂



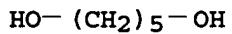
CM 4

CRN 616-38-6
 CMF C₃ H₆ O₃



CM 5

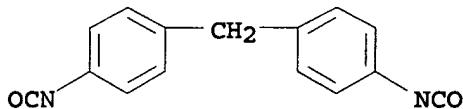
CRN 111-29-5
 CMF C₅ H₁₂ O₂



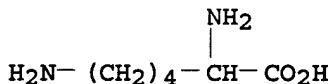
CM 6

CRN 101-68-8

CMF C15 H10 N2 O2



CM 7

CRN 70-54-2
CMF C6 H14 N2 O2

IC ICM C08G018-42
 ICS A61L027-00; C08G018-48; C08G018-61; C08G018-65
 CC 63-7 (Pharmaceuticals)
 IT 51-85-4DP, Cystamine, copolymers with polyols, carbonates, hydroxypropyl-terminated siloxanes, and diisocyanates 70-54-2DP, DL-Lysine, copolymers with polyols, carbonates, hydroxypropyl-terminated siloxanes, and diisocyanates 101-68-8DP, copolymers with polyols, carbonates, hydroxypropyl-terminated siloxanes, and diamines 111-29-5DP, 1,5-Pantanediol, copolymers with carbonate, hydroxypropyl-terminated siloxanes, diisocyanates, and diamines 616-38-6DP, Dimethyl carbonate, copolymers with polyols, hydroxypropyl-terminated siloxanes, diisocyanates, and diamines 629-11-8DP, 1,6-Hexanediol, copolymers with carbonate, hydroxypropyl-terminated siloxanes, diisocyanates, and diamines 822-06-0DP, copolymers with polyols, carbonates, hydroxypropyl-terminated siloxanes, and diamines 24937-05-1DP, Poly(ethylene adipate), hydroxy-terminated, copolymers with carbonate, hydroxypropyl-terminated siloxanes, diisocyanates, and diamines 25190-06-1DP, copolymers with carbonate, hydroxypropyl-terminated siloxanes, diisocyanates, and diamines 25322-69-4DP, Polypropylene glycol, copolymers with carbonate, hydroxypropyl-terminated siloxanes, diisocyanates, and diamines 31900-57-9DP, Dimethylsilanediol homopolymer, hydroxypropyl-terminated, copolymers with polyols, carbonates, diisocyanates, and diamines 58130-02-2DP, copolymers with polyols, carbonate, diisocyanates, and diamines 64704-23-0DP, copolymers with polyols, carbonates, hydroxypropyl-terminated siloxanes, and diisocyanates 163656-36-8DP, copolymers with polyols, carbonates, hydroxypropyl-terminated siloxanes, and diisocyanates 163656-38-0P 163656-39-1P 163656-40-4P
 (antithrombotic polyurethane-polyurea for medical goods)

L54 ANSWER 57 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:220504 HCPLUS

DOCUMENT NUMBER: 120:220504

TITLE: Polycarbonate polyols for coatings

INVENTOR(S): Nakae, Yasuhiko; Tanabe, Hisaki; Nishi, Tadahiko; Eguchi, Yoshio

PATENT ASSIGNEE(S): Nippon Paint Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 15 pp.

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|--------------|
| EP 562577 | A1 | 19930929 | EP 1993-104872 | 1993 0324 |
| EP 562577 R: DE, FR, GB JP 05271615 | B1 | 19970604 | <-- | |
| | A2 | 19931019 | JP 1992-65803 | 1992 0324 |
| JP 06073173 | A2 | 19940315 | JP 1992-227033 | 1992 0826 |
| CA 2092225 | AA | 19930925 | CA 1993-2092225 | 1993 0323 |
| AU 9335373 | A1 | 19930930 | AU 1993-35373 | 1993 0323 |
| AU 670570 US 5527879 | B2 | 19960725 | <-- | |
| | A | 19960618 | US 1993-36247 | 1993 0324 |
| PRIORITY APPLN. INFO.: | | | JP 1992-65803 | A |
| | | | | 1992 0324 |
| | | | JP 1992-227033 | A |
| | | | | 1992 0826 |
| | | | <-- | |

AB Coatings giving clear and smooth films contain 10-50% melamine resin crosslinkers and 50-90% polycarbonate polyols having mol. weight 400-10,000 and OH value 50-350 prepared from polyols comprising ≥ 10 mol% branched diols, ≥ 10 mol% tri- or higher polyhydric alcs., and balanced amts. of other polyhydric alcs. A composition containing 4.7:1.5:2.7:1.0 mol di-Ph carbonate-2-methyl-1,8-octane diol-1,9-nonane diol-trimethylolpropane dimer copolymer 70, U-Van 128 50, and p-toluene sulfonic acid was spread on a steel plate and cured at 140 Celsius degree for 25 min to give a 60- μ m film having good smoothness, and impact, solvent, and water resistance.

IT 153540-35-3P
 (preparation of, melamine resin-compatible, for coatings with impact, solvent, and water resistance)

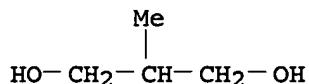
RN 153540-35-3 HCPLUS

CN D-Glucitol, polymer with dimethyl carbonate and
2-methyl-1,3-propanediol (9CI) (CA INDEX NAME)

CM 1

CRN 2163-42-0

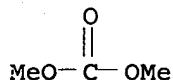
CMF C4 H10 O2



CM 2

CRN 616-38-6

CMF C3 H6 O3

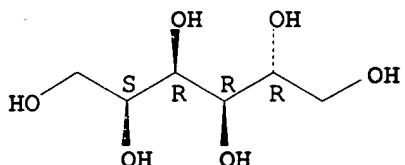


CM 3

CRN 50-70-4

CMF C6 H14 O6

Absolute stereochemistry.



IC ICM C09D169-00

CC 42-10 (Coatings, Inks, and Related Products)

IT 153540-29-5P 153540-30-8P 153540-31-9P 153540-32-0P

153540-33-1P 153540-34-2P 153540-35-3P 153724-57-3P

153890-67-6P

(preparation of, melamine resin-compatible, for coatings with
impact, solvent, and water resistance)

L54 ANSWER 58 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:193838 HCPLUS

DOCUMENT NUMBER: 120:193838

TITLE: Thermoplastic poly(carbonate ester) block
copolymers and their manufacture

INVENTOR(S): Saiki, Noritsugu; Hayashi, Masayuki

PATENT ASSIGNEE(S): Teijin Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: **Patent**
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|--------------|
| JP 05295095 | A2 | 19931109 | JP 1992-122782 | 1992 0417 |
| JP 3078644 | B2 | 20000821 | JP 1992-122782 | 1992 0417 |

PRIORITY APPLN. INFO.:

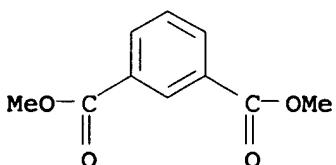
AB The title elastomers, useful for manufacture of fibers and films with high elastic recovery and good light, chlorine, and hydrolysis resistance, comprise (A) poly(carbonate ester) segments comprising C4-12 aliphatic glycols linked via carbonate or ester bond and containing 10-70% aromatic dicarboxylic acid-based ester units and (B) polyester segments (m.p. $\geq 170^\circ$) prepared mainly from aromatic dicarboxylic acids and ≥ 1 glycol selected from ethylene glycol, trimethylene glycol, tetramethylene glycol, and cyclohexanedimethanol. Poly(carbonate esters) (A) with $[\eta] \geq 0.5$ and polyesters (B) are mixed in molten state to give title block elastomers having a m.p. 2-50° lower than that of the B. Thus, di-Me isophthalate-hexamethylene glycol-di-Ph carbonate copolymer with $[\eta] 0.96$ was treated with poly(tetramethylene terephthalate) (m.p. 223°) at 250° and 0.5 mmHg for 40 min and mixed with H₃PO₃ at 1 atmospheric to give a block copolymer with $[\eta] 0.99$ and m.p. 196°. Fiber prepared by melt spinning the copolymer showed elastic recovery (200% elongation) 91% at room temperature and 90% at 0°.

IT 153733-86-9P 153733-87-0P 153733-88-1P
153852-44-9P
(rubber, preparation of, light- and chlorine- and hydrolysis-resistant, for fibers)

RN 153733-86-9 HCPLUS

CN 1,3-Benzenedicarboxylic acid, dimethyl ester, polymer with 1,4-benzenedicarboxylic acid, 1,4-butanediol, 1,10-decanediol, dimethyl 1,4-benzenedicarboxylate, dimethyl carbonate and 1,6-hexanediol, block (9CI) (CA INDEX NAME)

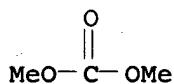
CM 1

CRN 1459-93-4
CMF C10 H10 O4

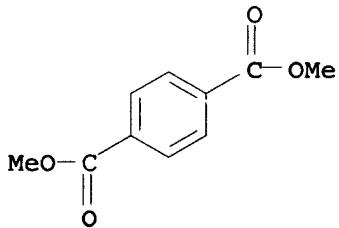
CM 2

CRN 629-11-8
CMF C6 H14 O2HO—(CH₂)₆—OH

CM 3

CRN 616-38-6
CMF C3 H6 O3

CM 4

CRN 120-61-6
CMF C10 H10 O4

CM 5

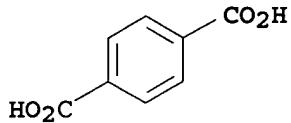
CRN 112-47-0
CMF C10 H22 O2HO—(CH₂)₁₀—OH

CM 6

CRN 110-63-4
CMF C4 H10 O2HO—(CH₂)₄—OH

CM 7

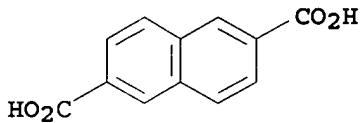
CRN 100-21-0
CMF C8 H6 O4



RN 153733-87-0 HCAPLUS
CN 2,6-Naphthalenedicarboxylic acid, polymer with
1,2-benzenedicarboxylic acid, 1,3-benzenedicarboxylic acid,
1,4-butanediol, dimethyl carbonate and 1,6-hexanediol, block (9CI)
(CA INDEX NAME)

CM 1

CRN 1141-38-4
CMF C12 H8 O4



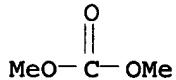
CM 2

CRN 629-11-8
CMF C6 H14 O2

HO—(CH₂)₆—OH

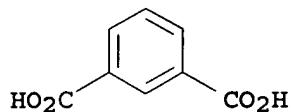
CM 3

CRN 616-38-6
CMF C3 H6 O3



CM 4

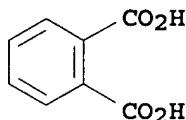
CRN 121-91-5
CMF C8 H6 O4



CM 5

CRN 110-63-4
CMF C4 H10 O2HO—(CH₂)₄—OH

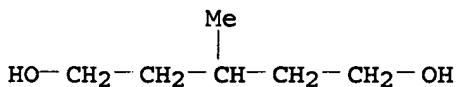
CM 6

CRN 88-99-3
CMF C8 H6 O4

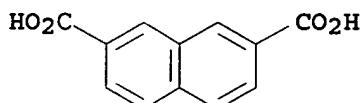
RN 153733-88-1 HCAPLUS

CN 2,7-Naphthalenedicarboxylic acid, polymer with
1,3-benzenedicarboxylic acid, 1,4-butanediol, dimethyl carbonate
and 3-methyl-1,5-pentanediol, block (9CI) (CA INDEX NAME)

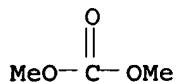
CM 1

CRN 4457-71-0
CMF C6 H14 O2

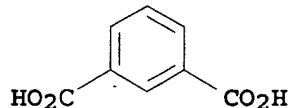
CM 2

CRN 2089-89-6
CMF C12 H8 O4

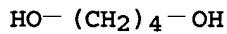
CM 3

CRN 616-38-6
CMF C3 H6 O3

CM 4

CRN 121-91-5
CMF C8 H6 O4

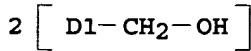
CM 5

CRN 110-63-4
CMF C4 H10 O2

RN 153852-44-9 HCAPLUS

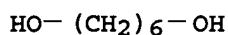
CN 1,3-Benzenedicarboxylic acid, polymer with 1,4-benzenedicarboxylic acid, cyclohexanediethanol, 1,10-decanediol, dimethyl carbonate, 1,2-ethanediol and 1,6-hexanediol, block (9CI) (CA INDEX NAME)

CM 1

CRN 27193-25-5
CMF C8 H16 O2
CCI IDS

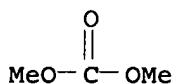
CM 2

CRN 629-11-8
 CMF C6 H14 O2



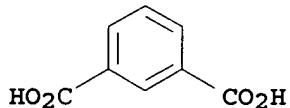
CM 3

CRN 616-38-6
 CMF C3 H6 O3



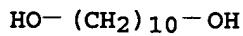
CM 4

CRN 121-91-5
 CMF C8 H6 O4



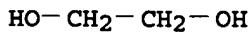
CM 5

CRN 112-47-0
 CMF C10 H22 O2



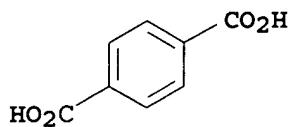
CM 6

CRN 107-21-1
 CMF C2 H6 O2



CM 7

CRN 100-21-0
 CMF C8 H6 O4



IC ICM C08G063-64
 ICS C08G081-00
 CC 39-4 (Synthetic Elastomers and Natural Rubber)
 Section cross-reference(s): 35, 40
 IT 153733-85-8P 153733-86-9P 153733-87-0P
 153733-88-1P 153852-44-9P
 (rubber, preparation of, light- and chlorine- and
 hydrolysis-resistant, for fibers)

L54 ANSWER 59 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1993:561970 HCAPLUS
 DOCUMENT NUMBER: 119:161970
 TITLE: Diol-terminated polycarbonates and their use
 in reactive adhesive and/or sealing
 formulations
 INVENTOR(S): Greco, Alberto
 PATENT ASSIGNEE(S): Enichem Synthesis S.p.A., Italy
 SOURCE: Eur. Pat. Appl., 17 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|-------------------|
| EP 533275 | A2 | 19930324 | EP 1992-202823 | 1992 0915 |
| EP 533275 | A3 | 19930414 | | <-- |
| EP 533275 | B1 | 19981223 | | |
| US 5288839 | A | 19940222 | US 1992-944908 | 1992 0915 |
| AT 174940 | E | 19990115 | AT 1992-202823 | 1992 0915 |
| JP 05239202 | A2 | 19930917 | JP 1992-290659 | 1992 0917 |
| JP 3240194 | B2 | 20011217 | | <-- |
| PRIORITY APPLN. INFO.: | | | IT 1991-MI2457 | A 1991 0917 |
| OTHER SOURCE(S): | | | MARPAT 119:161970 | <-- |

AB The title polymers, useful in the preparation of prepolymers which in turn can be used in reactive adhesive and/or sealing formulations of the hygro-, photo-, or thermosetting type, are prepared. Thus, reacting 12.04 mol di-Me carbonate with 4.5 mol 1,12-dodecanediol and 5.5 mol 1,6-hexanediol gave a polymer (I) having OH value 28.2, number-average mol. weight 3976, and glass transition temperature -58°. Reacting 27.67 mmol I and 60.86 mmol MDI gave an NCO-terminated prepolymer, which was cured and molded into test plates showing good hydrolytic resistance.

IT 150174-49-5P 150174-50-8P 150174-51-9P

150174-52-0P 150174-53-1P

(preparation of, for adhesives and sealing compns.)

RN 150174-49-5 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,12-dodecanediol, 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 5675-51-4

CMF C12 H26 O2

HO—(CH₂)₁₂—OH

CM 2

CRN 629-11-8

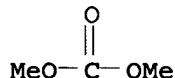
CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 3

CRN 616-38-6

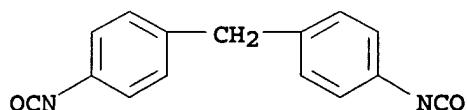
CMF C3 H6 O3



CM 4

CRN 101-68-8

CMF C15 H10 N2 O2



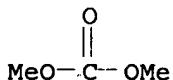
RN 150174-50-8 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,10-decanediol, 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8
CMF C6 H14 O2HO—(CH₂)₆—OH

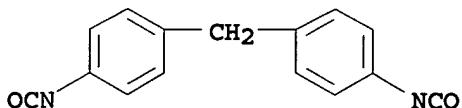
CM 2

CRN 616-38-6
CMF C3 H6 O3

CM 3

CRN 112-47-0
CMF C10 H22 O2HO—(CH₂)₁₀—OH

CM 4

CRN 101-68-8
CMF C15 H10 N2 O2

RN 150174-51-9 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol, 1,1'-methylenebis[4-isocyanatobenzene] and 1,9-nonanediol (9CI) (CA INDEX NAME)

CM 1

CRN 3937-56-2
CMF C9 H20 O2

HO—(CH₂)₉—OH

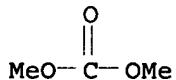
CM 2

CRN 629-11-8
CMF C₆ H₁₄ O₂

HO—(CH₂)₆—OH

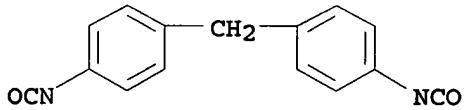
CM 3

CRN 616-38-6
CMF C₃ H₆ O₃



CM 4

CRN 101-68-8
CMF C₁₅ H₁₀ N₂ O₂



RN 150174-52-0 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,12-dodecanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

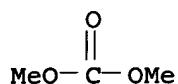
CM 1

CRN 5675-51-4
CMF C₁₂ H₂₆ O₂

HO—(CH₂)₁₂—OH

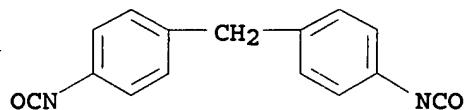
CM 2

CRN 616-38-6
CMF C₃ H₆ O₃



CM 3

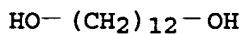
CRN 101-68-8
 CMF C15 H10 N2 O2



RN 150174-53-1 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,12-dodecanediol, 1,1'-methylenebis[4-isocyanatobenzene] and 2-oxepanone (9CI) (CA INDEX NAME)

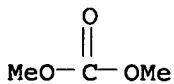
CM 1

CRN 5675-51-4
 CMF C12 H26 O2



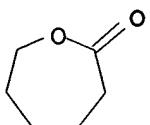
CM 2

CRN 616-38-6
 CMF C3 H6 O3

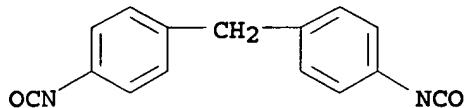


CM 3

CRN 502-44-3
 CMF C6 H10 O2



CM 4

CRN 101-68-8
CMF C15 H10 N2 O2

IT 150174-45-1DP, diol derivs. 150174-46-2DP, diol derivs. 150174-47-3DP, diol derivs. 150174-48-4DP, diol derivs.
(preparation of, for manufacture of polyurethanes, for adhesives and sealing compns.)

RN 150174-45-1 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,12-dodecanediol and 1,6-hexanediol (9CI) (CA INDEX NAME)

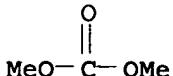
CM 1

CRN 5675-51-4
CMF C12 H26 O2HO—(CH₂)₁₂—OH

CM 2

CRN 629-11-8
CMF C6 H14 O2HO—(CH₂)₆—OH

CM 3

CRN 616-38-6
CMF C3 H6 O3

RN 150174-46-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,10-decanediol and 1,6-hexanediol (9CI) (CA INDEX NAME)

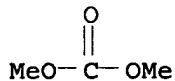
CM 1

CRN 629-11-8
CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6
CMF C₃ H₆ O₃



CM 3

CRN 112-47-0
CMF C₁₀ H₂₂ O₂

HO—(CH₂)₁₀—OH

RN 150174-47-3 HCAPLUS
CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 1,9-nonanediol (9CI) (CA INDEX NAME)

CM 1

CRN 3937-56-2
CMF C₉ H₂₀ O₂

HO—(CH₂)₉—OH

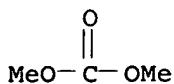
CM 2

CRN 629-11-8
CMF C₆ H₁₄ O₂

HO—(CH₂)₆—OH

CM 3

CRN 616-38-6
CMF C₃ H₆ O₃



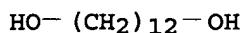
RN 150174-48-4 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,12-dodecanediol and 2-oxepanone (9CI) (CA INDEX NAME)

CM 1

CRN 5675-51-4

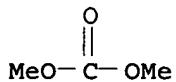
CMF C12 H26 O2



CM 2

CRN 616-38-6

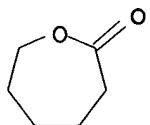
CMF C3 H6 O3



CM 3

CRN 502-44-3

CMF C6 H10 O2



IC ICM C08G064-02

ICS C08G064-16; C08G018-44; C08G018-10; C08G018-28; C08G018-67; C09J175-04; C09J175-16

CC 38-3 (Plastics Fabrication and Uses)

IT 150174-49-5P 150174-50-8P 150174-51-9P

150174-52-0P 150174-53-1P 150177-29-0DP,

reaction products with isocyanato group-terminated polycarbonate-polyurethane prepolymers

(preparation of, for adhesives and sealing compns.)

IT 150174-45-1DP, diol derivs. 150174-46-2DP, diol

derivs. 150174-47-3DP, diol derivs.

150174-48-4DP, diol derivs.

(preparation of, for manufacture of polyurethanes, for adhesives and sealing compns.)

L54 ANSWER 60 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1993:549531 HCAPLUS
 DOCUMENT NUMBER: 119:149531
 TITLE: Photosensitive compositions useful for making
 presensitized lithographic plates
 INVENTOR(S): Nakai, Hideyuki; Suzuki, Toshitsugu;
 Matsumura, Tomoyuki
 PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|----------------|----------|-----------------|--------------|
| JP 04362647 | A2 | 19921215 | JP 1991-164992 | 1991 0610 |
| <-- | | | | |
| PRIORITY APPLN. INFO.: | JP 1991-164992 | | | |
| | 1991 0610 | | | |
| | <-- | | | |

AB In the title composition comprising a compound which generates acid upon irradiation with actinic rays and a compound having a bond decomposable by the acid, the compound which generates acid upon irradiation with actinic rays is a condensate of o-naphthoquinonediazidosulfonic acid halide and an oxime-containing compound. The compns. show good stability in photosensitivity after exposure and under-developability(developability with respect to developers with reduced developing capacity).

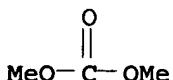
IT 119201-95-5P
 (preparation of, photosensitive composition containing, for lithog. plate making)

RN 119201-95-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,2,6-hexanetriol
 (9CI) (CA INDEX NAME)

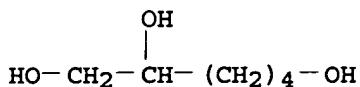
CM 1

CRN 616-38-6
 CMF C3 H6 O3



CM 2

CRN 106-69-4
 CMF C6 H14 O3



IC ICM G03F007-022
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 IT 69468-60-6P 78537-86-7P 115324-80-6P 115815-82-2P
 116745-41-6P 117646-94-3P 117647-26-4P 117647-27-5P
 117992-19-5P 118188-70-8P 119201-95-5P 149671-27-2P
 149671-30-7P
 (preparation of, photosensitive composition containing, for lithog. plate making)

L54 ANSWER 61 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:474369 HCAPLUS
 DOCUMENT NUMBER: 119:74369
 TITLE: Gas transport properties of polycarbonate-polyurethane membranes
 AUTHOR(S): Cao, N.; Pegoraro, M.; Bianchi, F.; Di Landro, L.; Zanderighi, L.
 CORPORATE SOURCE: Dip. Chim. Ind. Ing. Chim. "G Natta", Politec. Milano, Milan, 20133, Italy
 SOURCE: Journal of Applied Polymer Science (1993), 48(10), 1831-42
 CODEN: JAPNAB; ISSN: 0021-8995

DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Polyurethanes (PU) were prepared using polymeric diols, containing polar groups, as carbonate groups, carbonate and ether groups, or carbonate and ester groups. PUs were prepared by the prepolymer two-step technique using EtOAc as the solvent; the diol was reacted at .apprx.80° with TDI (ratio 1:2) to give the prepolymer terminated with NCO, which was then crosslinked with triisopropanolamine. The membranes were prepared using a Gardner knife and were characterized by DTA (DSC). Most of the polymers prepared from low- and medium-mol.-weight diols were amorphous and elastomeric at the temperature of gas transport measurement (35°). The permeabilities and the diffusion coeffs. of different gases (O₂, N₂, CO₂, CH₄, CO) were measured by a modified Lyssy apparatus, the solubility coefficient was also calculated. Diffusivity

data follow the Fujita model and the solubility coeffs. follow the regular solution theory, as developed by J. M. Prausnitz and F. H. Shair (1961).

IT 74-82-8, Methane, properties 7727-37-9,
 Nitrogen, properties
 (permeation of, through polycarbonate-polyurethane rubber membranes)

RN 74-82-8 HCAPLUS
 CN Methane (8CI, 9CI) (CA INDEX NAME)

CH₄

RN 7727-37-9 HCAPLUS
 CN Nitrogen (8CI, 9CI) (CA INDEX NAME)



IT 148946-78-5

(rubber, membranes, gas transport properties of)

RN 148946-78-5 HCPLUS

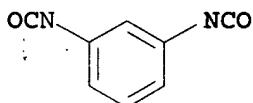
CN Carbonic acid, dimethyl ester, polymer with 1,3-diisocyanatomethylbenzene, 1,6-hexanediol, 1,1',1'''-nitrilotris[2-propanol] and 2-oxepanone (9CI) (CA INDEX NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



D1-Me

CM 2

CRN 629-11-8

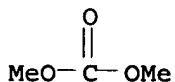
CMF C6 H14 O2

HO-(CH₂)₆-OH

CM 3

CRN 616-38-6

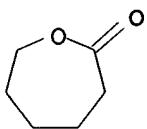
CMF C3 H6 O3



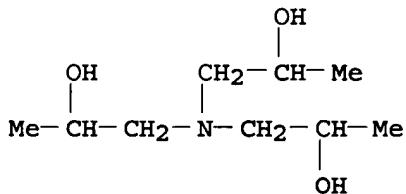
CM 4

CRN 502-44-3

CMF C6 H10 O2



CM 5

CRN 122-20-3
CMF C9 H21 N O3

CC 39-12 (Synthetic Elastomers and Natural Rubber)
 IT 74-82-8, Methane, properties 124-38-9, Carbon dioxide,
 properties 630-08-0, Carbon monoxide, properties
 7727-37-9, Nitrogen, properties 7782-44-7, Oxygen,
 properties
 (permeation of, through polycarbonate-polyurethane rubber
 membranes)
 IT 141312-66-5, 1,4-Butanediol-carbonic acid-TDI-triisopropanolamine
 copolymer 141312-67-6, Carbonic acid-1,6-hexanediol-1,5-
 pentanediol-TDI-triisopropanolamine copolymer 141312-68-7,
 Carbonic acid-TDI-triethylene glycol-triisopropanolamine copolymer
 141328-65-6 141394-43-6, Carbonic acid-dipropylene
 glycol-TDI-triisopropanolamine copolymer 141395-13-3, Carbonic
 acid-dipropylene glycol-polypropylene glycol-TDI-
 triisopropanolamine copolymer 148946-78-5
 (rubber, membranes, gas transport properties of)

L54 ANSWER 62 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1993:193581 HCAPLUS
 DOCUMENT NUMBER: 118:193581
 TITLE: Water-soluble biodegradable
 polyether-polycarbonates and their use as
 lubricants for synthetic fibers
 INVENTOR(S): Goossens, Bernhard; Peppmoeller, Reinmar;
 Winck, Karl
 PATENT ASSIGNEE(S): Chemische Fabrik Stockhausen GmbH, Germany
 SOURCE: Ger. Offen., 6 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|-------|----------|-----------------|-------|
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| ----- | ----- | ----- | ----- | ----- |
| DE 4113889 | A1 | 19921029 | DE 1991-4113889 | |

1991
0427

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DE 4113889 C2 19940511
EP 511589 A1 19921104 EP 1992-1069581992
0423

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EP 511589 B1 19990721
R: PT
WO 9219664 A1 19921112 WO 1992-EP8941992
0423

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W: JP, KR, US
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE
EP 582602 A1 19940216 EP 1992-9090741992
0423

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE
JP 06509593 T2 19941027 JP 1992-5084921992
0423

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JP 2651510 B2 19970910
AT 182343 E 19990815 AT 1992-1069581992
0423

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ES 2136607 T3 19991201 ES 1992-106958

1992
0423

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CN 1068812 A 19930210 CN 1992-103992

1992
0427

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CN 1041837 B 19990127
US 5569408 A 19961029 US 1993-1400481993
1027

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GR 3031566 T3 20000131 GR 1999-402660

1999
1019

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PRIORITY APPLN. INFO.: DE 1991-4113889 A
1991
0427

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WO 1992-EP894 W

1992
0423

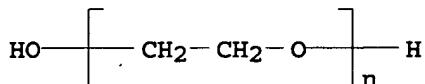
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AB The title polymers $R_1O(CH_2CH_2O)_n[CO(OCH_2CH_2)_mO]zR_3$ [R1 = C6-22 alkyl; R2 = H, Me; R3 = H, CO(OCH₂CH₂)_nOR₁; n = 0-10; m = 5-16; z = 1-3] are prepared and used on polyester fibers. Thus, 240 g decyl alc. was transesterified with 150 g Me₂CO₃, and the product was reacted with 600 g polyethylene glycol (mol. weight 400) and 100 g

Me₂CO₃ to prepare a lubricant.
 IT 137369-83-6DP, dialkyl-terminated
 (preparation of, as lubricants for synthetic fibers)
 RN 137369-83-6 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -
 hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

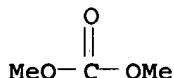
CM 1

CRN 25322-68-3
 CMF (C₂ H₄ O)_n H₂ O
 CCI PMS



CM 2

CRN 616-38-6
 CMF C₃ H₆ O₃



IC ICM C07C069-96
 ICS C07C068-06; C07C068-02; D06M013-232
 ICA B01F017-42
 CC 40-7 (Textiles and Fibers)
 Section cross-reference(s): 38
 IT 137369-83-6DP, dialkyl-terminated 147212-28-0DP,
 dialkyl-terminated
 (preparation of, as lubricants for synthetic fibers)

L54 ANSWER 63 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1993:169829 HCAPLUS
 DOCUMENT NUMBER: 118:169829
 TITLE: Preparation of high-molecular-weight
 hydroxy-terminated polycarbonates
 INVENTOR(S): Watanabe, Tomoya; Kawai, Kenzo
 PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| JP 04239024 | A2 | 19920826 | JP 1991-2212 | 1991 0111 |

PRIORITY APPLN. INFO.:

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JP 1991-22121991
0111

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AB The title polymers are prepared with good yield by first preparation of low-mol.-weight polycarbonates, then adding diaryl carbonates, and heating the mixts. with the removal of aryl alcs. Thus, heating 1,5-pentanediol 12.58, 1,6-hexanediol 12.50, and ethylene carbonate 25.02 mol at 150° for 20 h gave a polycarbonate with number-average mol. weight (Mn) 328 and OH value 342 mg KOH/g, 251.2 g of which was heated with 173.34 g di-Ph carbonate at 150-200° to give 98% polymers having Mn 2810, and OH value 39.9 mg KOH/g.

IT 146841-89-6DP, hydroxy-terminated
(preparation of, with high mol. weight)

RN 146841-89-6 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with diphenyl carbonate,
1,6-hexanediol and 1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

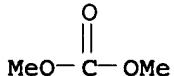
CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6

CMF C3 H6 O3



CM 3

CRN 111-29-5

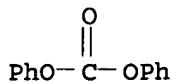
CMF C5 H12 O2

HO—(CH₂)₅—OH

CM 4

CRN 102-09-0

CMF C13 H10 O3



IC ICM C08G064-40
 ICS C08G064-30
 CC 35-5 (Chemistry of Synthetic High Polymers)
 IT 116737-12-3DP, hydroxy-terminated 146841-87-4DP,
 hydroxy-terminated 146841-88-5DP, hydroxy-terminated
 146841-89-6DP, hydroxy-terminated 146841-90-9DP,
 hydroxy-terminated 146938-60-5DP, hydroxy-terminated
 (preparation of, with high mol. weight)

L54 ANSWER 64 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1993:169796 HCAPLUS
 DOCUMENT NUMBER: 118:169796
 TITLE: Catalytic process for the preparation of
 polyalkylene carbonates
 INVENTOR(S): Grey, Roger A.
 PATENT ASSIGNEE(S): ARCO Chemical Technology, L.P., USA
 SOURCE: U.S., 7 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| US 5171830 | A | 19921215 | US 1991-746674 | 1991 0816 |

PRIORITY APPLN. INFO.: US 1991-746674
 1991
0816

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OTHER SOURCE(S): MARPAT 118:169796
 AB The title polymers useful as adhesives are prepared by reacting
 diols having ≥ 4 C separating OH groups with diesters of carbonic
 acid in the presence of a catalyst selected from tertiary amines,
 alkylammonium salts, pyridinium salts, and basic ion-exchangers
 bearing active alkylammonium or tertiary amino groups. Thus,
 heating 1,4-butanediol 19, di-Me carbonate 60, and
 tetrabutylammonium bromide 0.070 g gave a polymer having weight-average
 mol. weight 3700, m.p. 63-64°, and glass transition temperature
 41°.

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer
 146789-33-5P

(preparation of, catalysts for, for hot-melt adhesives)

RN 101325-00-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)
 (CA INDEX NAME)

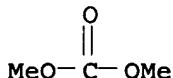
CM 1

CRN 629-11-8

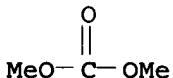
CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6
CMF C3 H6 O3RN 146789-33-5 HCPLUS
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol (9CI)
(CA INDEX NAME)

CM 1

CRN 616-38-6
CMF C3 H6 O3

CM 2

CRN 110-63-4
CMF C4 H10 O2HO—(CH₂)₄—OH

IC ICM C08G064-30
 INCL 528371000
 CC 35-3 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 38
 IT 24937-06-2P, Poly(oxycarbonyloxy-1,6-hexanediyl) 25805-40-7P,
 Poly(oxycarbonyloxy-1,4-butanediyl) 78260-33-0P
 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer
 146789-33-5P
 (preparation of, catalysts for, for hot-melt adhesives)

L54 ANSWER 65 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1992:408728 HCPLUS
 DOCUMENT NUMBER: 117:8728
 TITLE: Copolycarbonate diols for polyurethanes with
 increased modulus at low temperatures
 INVENTOR(S): Endo, Toshiro; Fujii, Kagomi
 PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

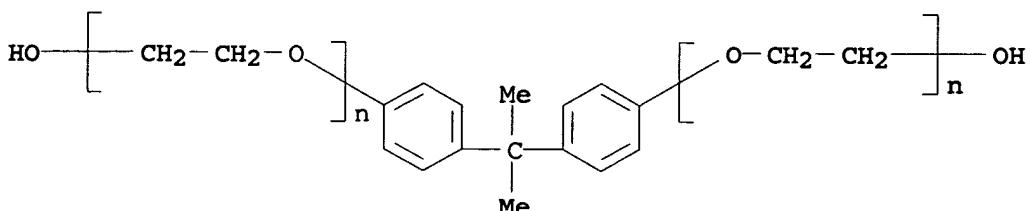
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|--------------|
| JP 03199230 | A2 | 19910830 | JP 1989-343725 | 1989 1227 |
| JP 2884358 | B2 | 19990419 | JP 1989-343725 | 1989 1227 |
| <-- | | | | |
| PRIORITY APPLN. INFO.: | | | | |

AB Title diols are prepared by treating compds. requiring dehydrochlorination steps, alkylene carbonates, diaryl carbonates, and/or dialkyl carbonates, and aliphatic diols comprising 20-80 parts adducts of 2,2'-bis(4-hydroxyphenyl)propane (I) and alkylene oxides and 20-80 parts 1,6-hexanediol (II). Thus, I and 2 mol equiv of ethylene oxide were treated to give an adduct, 2.28 mol of which was treated with 8.55 mol di-Me carbonate and 6.27 mol II to obtain a polycarbonate diol, 100 parts of which was copolymerd. with 1,4-butanediol and 35.6 parts 4,4'-diphenylmethane diisocyanate in DMF to obtain a polyurethane. It was applied on a release paper and dried to give a film showing elongation 524%, 100%-modulus 104 (at -10°) and 208 kg/cm² (at -30°), and 300%-modulus 300 (at -10°) and 713 kg/cm² (at -30°), vs. 188, 403, 728, and unmeasurable, resp., for the polyurethane prepared using a polycarbonate diol prepared without the adduct.

IT 139644-53-4P
 (films, preparation of, with high modulus at low temps.)
 RN 139644-53-4 HCPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, 1,6-hexanediol, 1,1'-methylenebis[4-isocyanatobenzene] and α,α' -[(1-methylethylidene)di-4,1-phenylene]bis[ω -hydroxypoly(oxy-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

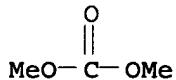
CRN 32492-61-8
 CMF (C₂H₄O)_n (C₂H₄O)_n C₁₅H₁₆O₂
 CCI PMS



CM 2

CRN 629-11-8
CMF C6 H14 O2HO—(CH₂)₆—OH

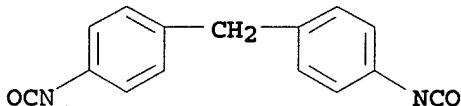
CM 3

CRN 616-38-6
CMF C3 H6 O3

CM 4

CRN 110-63-4
CMF C4 H10 O2HO—(CH₂)₄—OH

CM 5

CRN 101-68-8
CMF C15 H10 N2 O2

IT 139644-52-3P

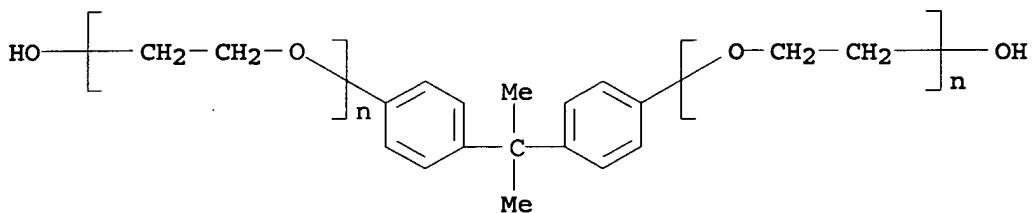
(preparation of, for polyurethanes with good modulus at low temperature)

RN 139644-52-3 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and
 α,α' -[(1-methylethylidene)di-4,1-phenylene]bis[ω -
 hydroxypoly(oxy-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

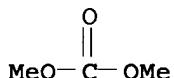
CRN 32492-61-8
CMF (C₂ H₄ O)_n (C₂ H₄ O)_n C15 H16 O2
CCI PMS



CM 2

CRN 629-11-8
CMF C6 H14 O2HO-(CH₂)₆-OH

CM 3

CRN 516-38-6
CMF C3 H6 O3

IC ICM C08G064-02
ICS C08G018-44
CC 35-5 (Chemistry of Synthetic High Polymers)
IT 139644-53-4P
(films, preparation of, with high modulus at low temps.)
IT 139644-52-3P
(preparation of, for polyurethanes with good modulus at low temperature)

L54 ANSWER 66 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:248043 HCAPLUS
DOCUMENT NUMBER: 114:248043
TITLE: Efficient and simple preparation of aliphatic polycarbonate diols
INVENTOR(S): Kiso, Yoshihisa; Shimamoto, Kenji
PATENT ASSIGNEE(S): Mitsui Petrochemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|------|
| JP 02284918 | A2 | 19901122 | JP 1989-108943 | 1989 |

0427

PRIORITY APPLN. INFO.:

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JP 1989-1089431989
0427

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AB In the title preparation, (MeO)₂CO is heated with aliphatic diols at 130-250° and mol ratio 0.5-1.7:1 in the presence of catalysts with distillation of MeOH. Heating 1.56 mol (MeO)₂CO with 1.25 mol 1,6-hexanediol and 0.03 g (iso-PrO)₄Ti at 200° and apprx.19 kg/cm² for 2 h, distilling MeOH and unreacted (MeO)₂CO, and heating the residue 200°/20-5 mm for 2 h gave 152 g polycarbonate with number-average mol. weight 1530, terminal OH 99.7%, and terminal OCO₂Me 0.3%; vs. 3980, 1.9, and 98.1%, resp., when the carbonate-diol mol ratio was 5.0:1.

IT 101325-00-2DP, Dimethyl carbonate-1,6-hexanediol copolymer, hydroxyl-terminated (efficient and simple preparation of)

RN 101325-00-2 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

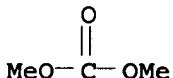
CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6

CMF C3 H6 O3



IC ICM C08G064-30

CC 35-5 (Chemistry of Synthetic High Polymers)

IT 24937-06-2DP, Poly(oxycarbonyloxy-1,6-hexanediyl), hydroxyl-terminated 101325-00-2DP, Dimethyl carbonate-1,6-hexanediol copolymer, hydroxyl-terminated (efficient and simple preparation of)

L54 ANSWER 67 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1990:479758 HCPLUS

DOCUMENT NUMBER: 113:79758

TITLE: Polycarbonatediol composition and polyurethane resin

INVENTOR(S): Murai, Takaaki; Fujii, Tatsumi

PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan

SOURCE: Eur. Pat. Appl., 8 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------|------|----------|-----------------|-------------------|
| EP 358555 | A2 | 19900314 | EP 1989-402396 | 1989 0901 |
| EP 358555 | A3 | 19910508 | | <-- |
| R: CH, DE, FR, GB, IT, LI | | | | |
| JP 02175721 | A2 | 19900709 | JP 1989-113236 | 1989 0502 |
| JP 2879685 | B2 | 19990405 | | <-- |
| JP 02255822 | A2 | 19901016 | JP 1989-114686 | 1989 0508 |
| JP 2844466 | B2 | 19990106 | | <-- |
| US 5100999 | A | 19920331 | US 1989-403434 | 1989 0906 |
| PRIORITY APPLN. INFO.: | | | JP 1988-223893 | A 1988 0906 |
| | | | JP 1988-319826 | A 1988 1219 |
| | | | JP 1989-113236 | A 1989 0502 |
| | | | JP 1989-114686 | A 1989 0508 |
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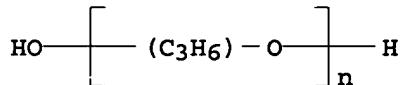
AB The title polycarbonates, useful in preparation of polyurethanes with high strength and heat and moisture resistance, and good low-temperature properties, are prepared by reaction of compds. requiring dehydrochlorination, alkylene carbonates, diaryl carbonates, or dialkyl carbonates with diol mixts. containing 20-80% polyether (mol. weight 300-2000) and 20-80% C<20 polyvalent alcs. A mixture of dimethylcarbonate 620, 1,6-hexanediol 740, polytetramethylene glycol (mol. weight 830) 640, and Ti(OBu)₄ 0.30 g was boiled with distillation of MeOH, giving a polycarbonatediol (I) with OH number 55.2 and m.p. 30°. A polyurethane prepared from I 100, 1,4-butanediol 8.3, and MDI 35.6 in DMF 267.3 part was cast into a 150 µm (dry) film with 100% elongation modulus 49, 71, and 162 kg/cm² at room temperature, -10°, and -30°, resp., vs. 69, 728, and 403, resp., using a polycarbonatediol not containing the polyether.

IT 128702-63-6P 128724-57-2P 128724-58-3P
128724-59-4P 128724-60-7P

(preparation of, for polyurethanes with good low temperature properties)
 RN 128702-63-6 HCPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and
 α -hydro- ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)]
 (9CI) (CA INDEX NAME)

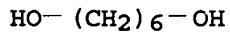
CM 1

CRN 25322-69-4
 CMF (C₃ H₆ O)_n H₂ O
 CCI IDS, PMS



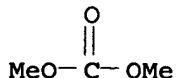
CM 2

CRN 629-11-8
 CMF C₆ H₁₄ O₂



CM 3

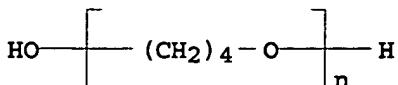
CRN 616-38-6
 CMF C₃ H₆ O₃



RN 128724-57-2 HCPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and
 α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA
 INDEX NAME)

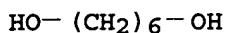
CM 1

CRN 25190-06-1
 CMF (C₄ H₈ O)_n H₂ O
 CCI PMS



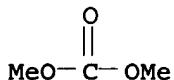
CM 2

CRN 629-11-8
 CMF C6 H14 O2



CM 3

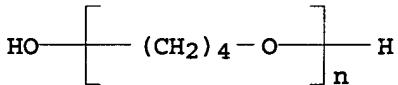
CRN 616-38-6
 CMF C3 H6 O3



RN 128724-58-3 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) and 3-methyl-1,5-pentanediol (9CI)
 (CA INDEX NAME)

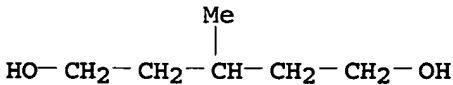
CM 1

CRN 25190-06-1
 CMF (C₄ H₈ O)_n H₂ O
 CCI PMS



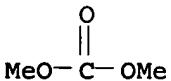
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CRN 4457-71-0
 CMF C6 H14 O2



CM 3

CRN 616-38-6
 CMF C3 H6 O3



RN 128724-59-4 HCPLUS

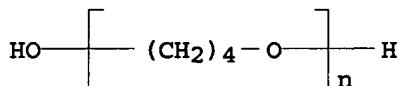
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol and
 α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA
INDEX NAME)

CM 1

CRN 25190-06-1

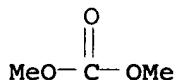
CMF (C₄ H₈ O)_n H₂ O

CCI PMS



CM 2

CRN 616-38-6

CMF C₃ H₆ O₃

CM 3

CRN 110-63-4

CMF C₄ H₁₀ O₂

RN 128724-60-7 HCPLUS

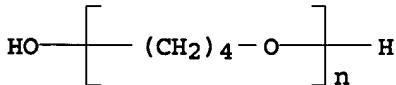
CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol,
 α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) and
3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C₄ H₈ O)_n H₂ O

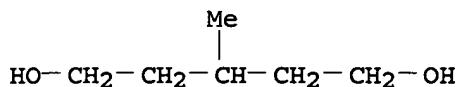
CCI PMS



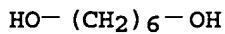
CM 2

CRN 4457-71-0

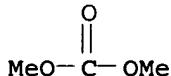
CMF C6 H14 O2



CM 3

CRN 629-11-8
CMF C6 H14 O2

CM 4

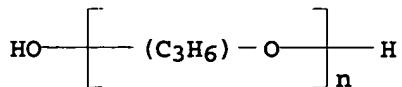
CRN 616-38-6
CMF C3 H6 O3IT 128702-64-7P 128724-61-8P 128724-62-9P
128724-63-0P 128724-64-1P

(preparation of, with good low temperature properties)

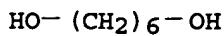
RN 128702-64-7 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol,
1,6-hexanediol and α -hydro- ω -hydroxypoly[oxy(methyl-
1,2-ethanediyl)] (9CI) (CA INDEX NAME)

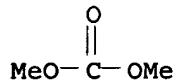
CM 1

CRN 25322-69-4
CMF (C3 H6 O)n H2 O
CCI IDS, PMS

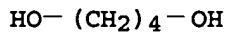
CM 2

CRN 629-11-8
CMF C6 H14 O2

CM 3

CRN 616-38-6
CMF C3 H6 O3

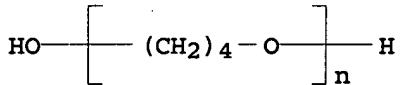
CM 4

CRN 110-63-4
CMF C4 H10 O2

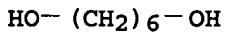
RN 128724-61-8 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, 1,6-hexanediol, α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

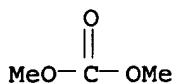
CRN 25190-06-1
CMF (C4 H8 O)n H2 O
CCI PMS

CM 2

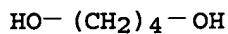
CRN 629-11-8
CMF C6 H14 O2

CM 3

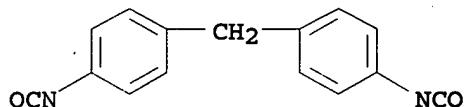
CRN 616-38-6
CMF C3 H6 O3



CM 4

CRN 110-63-4
CMF C4 H10 O2

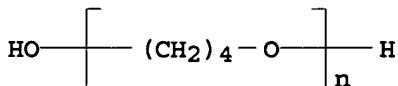
CM 5

CRN 101-68-8
CMF C15 H10 N2 O2

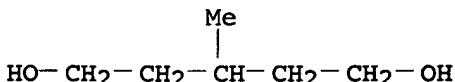
RN 128724-62-9 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol,
 α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl),
 1,1'-methylenebis[4-isocyanatobenzene] and 3-methyl-1,5-
 pentanediol (9CI) (CA INDEX NAME)

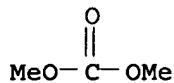
CM 1

CRN 25190-06-1
CMF (C4 H8 O)n H2 O
CCI PMS

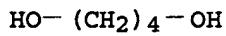
CM 2

CRN 4457-71-0
CMF C6 H14 O2

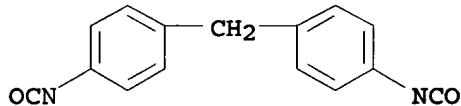
CM 3

CRN 616-38-6
CMF C3 H6 O3

CM 4

CRN 110-63-4
CMF C4 H10 O2

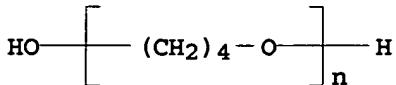
CM 5

CRN 101-68-8
CMF C15 H10 N2 O2

RN 128724-63-0 HCAPLUS

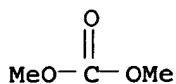
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl) and 1,1'-methylenebis[4-isocyanatobenzene], block (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1
CMF (C4 H8 O)n H2 O
CCI PMS

CM 2

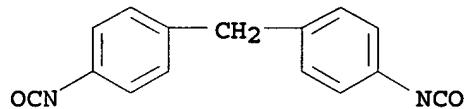
CRN 616-38-6
CMF C3 H6 O3



CM 3

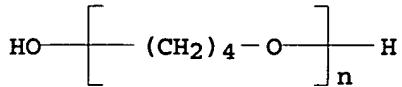
CRN 110-63-4
CMF C4 H10 O2

CM 4

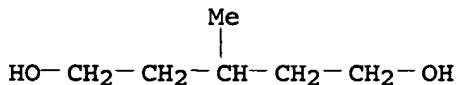
CRN 101-68-8
CMF C15 H10 N2 O2

RN 128724-64-1 HCPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol,
 1,6-hexanediol, α -hydro- ω -hydroxypoly(oxy-1,4-
 butanediyl) and 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1
CMF (C4 H8 O)n H2 O
CCI PMS

CM 2

CRN 4457-71-0
CMF C6 H14 O2

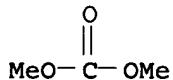
CM 3

CRN 629-11-8
CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 4

CRN 616-38-6
CMF C3 H6 O3



CM 5

CRN 110-63-4
CMF C4 H10 O2

HO—(CH₂)₄—OH

IC ICM C08G064-02
ICS C08G064-18; C08G064-30; C08G018-44
CC 37-3 (Plastics Manufacture and Processing)
IT 128702-63-6P 128724-57-2P 128724-58-3P
128724-59-4P 128724-60-7P
(preparation of, for polyurethanes with good low temperature properties)
IT 128702-64-7P 128724-61-8P 128724-62-9P
128724-63-0P 128724-64-1P
(preparation of, with good low temperature properties)

L54 ANSWER 68 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1990:407469 HCAPLUS
DOCUMENT NUMBER: 113:7469
TITLE: Low-melting polycarbonate diols for
polyurethane manufacture
INVENTOR(S): Murai, Takaaki; Fujii, Tatsumi
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- |
| EP 343572 | A2 | 19891129 | EP 1989-109201 | 1989 0522 |

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| | | | |
|---------------------------|----|----------------|----------------|
| EP 343572 | A3 | 19901107 | |
| EP 343572 | B1 | 19961002 | |
| R: CH, DE, FR, GB, IT, LI | | | |
| JP 02158617 | A2 | 19900619 | JP 1988-311452 |
| | | | 1988 1209 |
| <-- | | | |
| JP 2884088 | B2 | 19990419 | |
| US 4978691 | A | 19901218 | US 1989-356909 |
| | | | 1989 0525 |
| <-- | | | |
| JP 02049025 | A2 | 19900219 | JP 1989-133475 |
| | | | 1989 0526 |
| <-- | | | |
| PRIORITY APPLN. INFO.: | | JP 1988-127083 | A |
| | | | 1988 0526 |
| <-- | | | |
| AB | | JP 1988-311452 | A |
| | | | 1988 1209 |
| <-- | | | |

AB Title diols, useful for manufacture of polyurethanes with good mech. strength and heat and moisture resistance, are prepared by polymerization of organic carbonates with a mixture containing 20-80% 1,6-hexanediol (I) and 20-80% C3-20 polyols having side chains. Thus, 814 g Me₂CO₃ was polymerized with 677 g I and 149 g neopentyl glycol in the presence of 0.16 g (BuO)₄Ti at 200° to give a wax (II) with OH number 56.8 and m.p. 22-25°. II (100 parts) was polymerized with 8.3 parts 1,4-butanediol and 35.6 parts MDI in DMF at 60° to give a polyurethane that was cast to form a 150-μm film with 100% modulus 63, 114, and 419 kg/cm² at room temperature, -10°, and -30°, resp., 300% modulus 205 and 508 kg/cm² at room temperature and -10°, resp., strength 622 kg/cm² at room temperature, and elongation 445% at room temperature

IT 127695-57-2P 127695-58-3P 127695-59-4P
(manufacture of low-melting, for polyurethanes)

RN 127695-57-2 HCPLUS

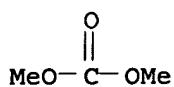
CN Carbonic acid, dimethyl ester, polymer with 2,2-dimethyl-1,3-propanediol and 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

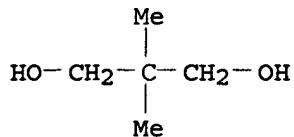
CRN 629-11-8
CMF C6 H14 O2HO—(CH₂)₆—OH

CM 2

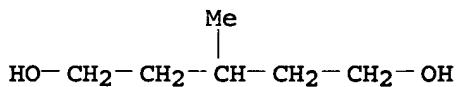
CRN 616-38-6
CMF C3 H6 O3



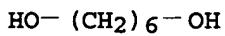
CM 3

CRN 126-30-7
CMF C5 H12 O2RN 127695-58-3 HCPLUS
CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and
3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

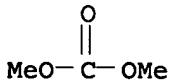
CM 1

CRN 4457-71-0
CMF C6 H14 O2

CM 2

CRN 629-11-8
CMF C6 H14 O2

CM 3

CRN 616-38-6
CMF C3 H6 O3RN 127695-59-4 HCPLUS
CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and
trimethyl-1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 27476-48-8
 CMF C9 H20 O2
 CCI IDS

HO—(CH₂)₆—OH

3 (D1-Me)

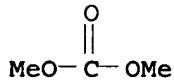
CM 2

CRN 629-11-8
 CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 3

CRN 616-38-6
 CMF C3 H6 O3



IT 127695-60-7P
 (rubber, manufacture of, with good low-temperature mech. properties)
 RN 127695-60-7 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol,
 2,2-dimethyl-1,3-propanediol, 1,6-hexanediol and
 1,1'-methylenebis[4-isocyanatobenzene], block (9CI) (CA INDEX
 NAME)

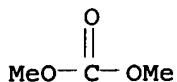
CM 1

CRN 629-11-8
 CMF C6 H14 O2

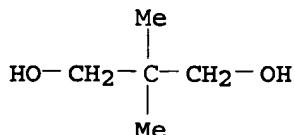
HO—(CH₂)₆—OH

CM 2

CRN 616-38-6
 CMF C3 H6 O3



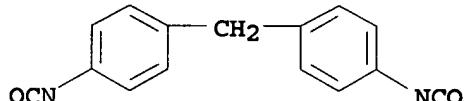
CM 3

CRN 126-30-7
CMF C5 H12 O2

CM 4

CRN 110-63-4
CMF C4 H10 O2

CM 5

CRN 101-68-8
CMF C15 H10 N2 O2

IC ICM C08G063-62
ICS C08G018-44
CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 39
IT 127695-57-2P 127695-58-3P 127695-59-4P
(manufacture of low-melting, for polyurethanes)
IT 127695-60-7P
(rubber, manufacture of, with good low-temperature mech. properties)

L54 ANSWER 69 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1990:180155 HCPLUS
DOCUMENT NUMBER: 112:180155
TITLE: Preparation of aliphatic polycarbonate diols
without catalysts
INVENTOR(S): Shimizu, Atsushi; Komiya, Kiyosuke
PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF

DOCUMENT TYPE: **Patent**
 LANGUAGE: **Japanese**
 FAMILY ACC. NUM. COUNT: **1**
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|--------------|
| JP 01252629 | A2 | 19891009 | JP 1988-78241 | 1988 0401 |

PRIORITY APPLN. INFO.: **JP 1988-78241**
1988
0401

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AB Title polymers are prepared by heating Me₂CO₃ (I) and aliphatic diols at 120-280° with distillation of MeOH initially at 1 atm and then at reduced pressure. Me₂CO₃ was added slowly to a mixture of 236 g HO(CH₂)₆OH and 208 g HO(CH₂)₅OH at 150-190° with distillation of MeOH containing 0-30% Me₂CO₃, the amount of added Me₂CO₃ being 0.913 mol/mol diols. The system was gradually evacuated at 250-280° to 10 mm, maintained 3.5 h, evacuated to 0.05 mm, and maintained 15 min to give a polycarbonate diol (mol. weight apprx.1300).

IT **126773-01-1P**
(preparation of low-mol.-weight, hydroxy-terminated)

RN **126773-01-1 HCPLUS**

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 1,5-pentanediol (9CI) (CA INDEX NAME)

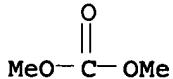
CM 1

CRN 629-11-8
CMF C₆ H₁₄ O₂

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6
CMF C₃ H₆ O₃



CM 3

CRN 111-29-5
CMF C₅ H₁₂ O₂



IC ICM C08G063-62
 CC 35-5 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 37
 IT 126773-01-1P
 (preparation of low-mol.-weight, hydroxy-terminated)

L54 ANSWER 70 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1989:574911 HCAPLUS
 DOCUMENT NUMBER: 111:174911
 TITLE: Preparation of polycarbonatediols for slow polyurethane formation reaction
 INVENTOR(S): Aoyama, Mari; Okumura, Manabu; Yoshida, Teruo
 PATENT ASSIGNEE(S): Toa Gosei Chemical Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|--------------|
| JP 01024830 | A2 | 19890126 | JP 1987-180100 | 1987 0721 |
| JP 06053794 | B4 | 19940720 | JP 1987-180100 | 1987 0721 |

AB Title polyols are prepared by heating polycarbonatediols in the presence of H₂O. Thus, a mixture of 0.5 parts H₂O and 750 parts polycarbonatediol (mol. weight 2100) (I) prepared from ethylene carbonate and 1,6-HO(CH₂)₆OH was heated at 90° for 4 h, and then dried at 50 torr and 120° to obtain polycarbonatediol containing ≤0.05% H₂O. Thus, obtained diol (200 parts) was added at 70° at equivalent diphenylmethane-diisocyanate ratio. The time for viscosity of the reaction mixture reached to 500 cP was 7.8 min, vs. 3.9 min for the reaction using H₂O-untreated I.

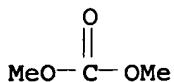
IT 123256-09-7P
 (preparation of)
 RN 123256-09-7 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

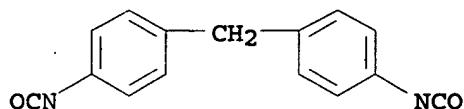
CRN 629-11-8
 CMF C6 H14 O2



CM 2

CRN 616-38-6
CMF C3 H6 O3

CM 3

CRN 101-68-8
CMF C15 H10 N2 O2IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer
(preparation of, by heating in presence of water, for slow
polyurethane-formation reaction)

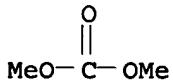
RN 101325-00-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)
(CA INDEX NAME)

CM 1

CRN 629-11-8
CMF C6 H14 O2

CM 2

CRN 616-38-6
CMF C3 H6 O3

IC ICM C08G063-62

ICS C08G018-44; C09D003-72; C09J003-16

CC 35-5 (Chemistry of Synthetic High Polymers)

IT 123256-07-5P 123256-08-6P 123256-09-7P
(preparation of)IT 29862-10-0P, Diphenyl carbonate-1,6-hexanediol copolymer
61630-98-6P, Ethylene carbonate-1,6-hexanediol copolymer

101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer
(preparation of, by heating in presence of water, for slow
polyurethane-formation reaction)

L54 ANSWER 71 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1988:550278 HCAPLUS
DOCUMENT NUMBER: 109:150278
TITLE: Manufacture of heat- and hydrolysis-resistant
polycarbonate-polyols
INVENTOR(S): Nishimura, Katsuhide; Shirota, Kanji
PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|--------------|
| JP 63075030 | A2 | 19880405 | JP 1986-219135 | 1986 0919 |
| JP 08032777 | B4 | 19960329 | JP 1986-219135 | 1986 0919 |

AB Discoloration-resistant polyols useful for manufacture of polyurethanes
are prepared by transesterification of dialkyl or diaryl carbonates
with alcs. in the presence of Ti or Sn compds. and 0.05-50 mol%
(based on carbonates) alkylene carbonates. Heating (EtO)₂CO 715,
ethylene carbonate (I) 59, 1,6-hexanediol 799, and (iso-PrO)₄Ti
0.055 part 1 h at 125°, 2 h at 150°, 2 h at
200°, and 2 h at 200°/10 mm gave a polycarbonate
polyol with mol. weight 1000, OH number 110, and APHA color number 80; vs.
1000, 115, and 400, resp., without I.

IT 116737-10-1P
(preparation of, resistant to hydrolysis and discoloration)

RN 116737-10-1 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,3-dioxolan-2-one and
1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6

CMF C3 H6 O3

RN 101325-00-2 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)
 (CA INDEX NAME)

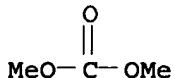
CM 1

CRN 629-11-8
 CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6
 CMF C3 H6 O3



IC ICM C08G063-62
 ICS C08G018-42
 CC 35-5 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 37
 IT 24937-06-2P 101325-00-2P, Dimethylcarbonate-1,6-
 hexanediol copolymer
 (manufacture of hydroxy-terminated, 2-step, as intermediate for
 polyurethanes)

L54 ANSWER 73 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1986:149611 HCAPLUS
 DOCUMENT NUMBER: 104:149611
 TITLE: Polycarbonate polyols
 INVENTOR(S): Wada, Hachiro; Suzuki, Koichi; Katagiri,
 Masatake
 PATENT ASSIGNEE(S): Nippon Polyurethane Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|--------------|
| JP 60181125 | A2 | 19850914 | JP 1984-36159 | 1984 0229 |
| JP 04069179 | B4 | 19921105 | JP 1984-36159 | 1984 0229 |

AB Dialkyl carbonates, alkylene carbonates, or diaryl carbonates and OH compds. are transesterified in the presence of epoxy compds. (0.002-0.2 mol epoxy group/1000 g polymer) and Ti compds. (0.0001-0.05% Ti, based on polymer) to prepare polycarbonate polyols rapidly with low discoloration. Thus, di-Et carbonate and 1,6-hexanediol were esterified in the presence of propylene oxide and TiCl₄.

IT 101325-00-2DP, hydroxy-terminated
(manufacture of, in presence of titanium catalysts and epoxide discoloration prevention agents)

RN 101325-00-2 HCPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)
(CA INDEX NAME)

CM 1

CRN 629-11-8

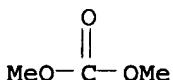
CMF C6 H14 O2

HO—(CH₂)₆—OH

CM 2

CRN 616-38-6

CMF C3 H6 O3



IC ICM C08G063-62

CC 35-3 (Chemistry of Synthetic High Polymers)

IT 24937-06-2DP, hydroxy-terminated 26894-28-0DP,
hydroxy-terminated 29862-10-0DP, hydroxy-terminated
61412-63-3DP, hydroxy-terminated 61630-98-6DP,
hydroxy-terminated 66837-11-4DP, hydroxy-terminated
66837-18-1DP, hydroxy-terminated 101324-99-6DP,
hydroxy-terminated 101325-00-2DP, hydroxy-terminated
101325-01-3DP, hydroxy-terminated
(manufacture of, in presence of titanium catalysts and epoxide discoloration prevention agents)

L54 ANSWER 74 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1984:209068 HCPLUS

DOCUMENT NUMBER: 100:209068

TITLE: A novel clathrate design: selective inclusion
of uncharged molecules via the binaphthyl
hinge and appended coordinating groups. X-ray
crystal structures and binding modes of
1,1'-binaphthyl-2,2'-dicarboxylic acid
host/hydroxylic guest inclusions

AUTHOR(S): Weber, Edwin; Csoregh, Ingeborg; Stensland,
Brigitta; Czugler, Matyas

CORPORATE SOURCE: Inst. Org. Chem. Biochem., Univ. Bonn, Bonn,
D-5300/1, Fed. Rep. Ger.

SOURCE:

Journal of the American Chemical Society
 (1984), 106(11), 3297-306
 CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE:

Journal

LANGUAGE:

English

AB 1,1'-Binaphthyl-2,2'-dicarboxylic acid (I) is demonstrated as a novel type of clathrate host whose main mode of action is derived from a combination of the steric barrier and the coordinative interaction principle, which constitutes the new coordinatoclathrate strategy. Inclusion properties of the crystal lattice of I are revealed for a variety of uncharged organic guest mols. (30 examples), ranging from OH-, to NH-, to CH-acidic compds. such as alcs., carboxylic acids, amides, and nitriles to rather unpolar compds. like PhBr and PhMe. Marked discrimination selectivities in clathrate formation from solvent mixts. are found in regard to the group functionality, the substitution pattern, and the mol. size of the guest species, making accessible a simple process for chemical compound separation. The stoichiometries and the increased-temperature as well as the reduced-pressure stabilities of the various clathrates are discussed. The principles of structure of 5 different alc. clathrates of I are determined by x-ray anal. In all these cases, however, hydroxy groups of the host mols. were found to be intercalated via large pseudo-ring formation between the carboxyl functions of at least 2 host units of opposite chirality with a different mode of H bridging. Depending on the host:guest stoichiometry (1:1 or 1:2) and the nature of the guest mols., these entities consist of 3, 4, or 8 moieties (COOH, OH). The directionality of the strong and cooperative bonds is always homodromic. The shape and the size of the cleft formed in the matrix of cooperating host moieties are shown to vary, matching the specific needs of coordinating interactions (H bonding) and topol. requirements (e.g., branching) of the guest species.

IT 89555-61-3P

(preparation of)

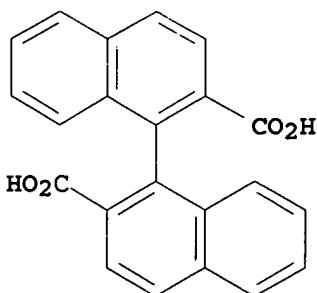
RN 89555-61-3 HCAPLUS

CN [1,1'-Binaphthalene]-2,2'-dicarboxylic acid, compd. with dimethyl carbonate (2:1) (9CI) (CA INDEX NAME)

CM 1

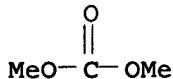
CRN 99827-46-0

CMF C22 H14 O4



CM 2

CRN 616-38-6
CMF C3 H6 O3



CC 22-13 (Physical Organic Chemistry)

Section cross-reference(s): 75

IT 89555-42-0P 89555-44-2P 89555-46-4P 89555-47-5P
89555-48-6P 89555-49-7P 89555-50-0P 89555-51-1P
89555-52-2P 89555-53-3P 89555-55-5P 89555-56-6P
89555-57-7P 89555-58-8P 89555-59-9P 89555-61-3P
89555-62-4P 89555-63-5P 89555-64-6P 89555-65-7P
89555-67-9P 89577-84-4P 102996-81-6P 102996-82-7P
102996-83-8P
(preparation of)

L54 ANSWER 75 OF 75 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1984:86733 HCPLUS

DOCUMENT NUMBER: 100:86733

TITLE: Composition based on aliphatic polycarbonates which contain urethane groups and acrylic or methacrylic end groups, to be crosslinked in the presence of radical initiators

INVENTOR(S): Priola, Aldo; Romano, Ugo; Renzi, Fiorenzo

PATENT ASSIGNEE(S): Anic S.p.A., Italy

SOURCE: Eur. Pat. Appl., 32 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|--------------|
| EP 92272 | A1 | 19831026 | EP 1983-200506 | 1983 0411 |
| EP 92272 | B1 | 19861112 | | <-- |
| R: AT, BE, CH, DE, FR, GB, LI, LU, NL, SE AT 23548 | E | 19861115 | AT 1983-200506 | 1983 0411 |
| DK 8301622 | A | 19831016 | DK 1983-1622 | 1983 0413 |
| US 4544725 | A | 19851001 | US 1983-484954 | 1983 0414 |
| ES 521802 | A1 | 19841216 | ES 1983-521802 | 1983 0415 |

PRIORITY APPLN. INFO.:

IT 1982-20749

A

1982
0415

EP 1983-200506

A

1983
0411

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AB A composition based on aliphatic polycarbonates containing urethane groups and acrylic or methacrylic end groups, capable of being crosslinked in the presence of radical initiators, is prepared by treating diols with a dialkyl carbonate to give a polycarbonate intermediate which is then treated with a primary diamine to give a OH-terminated polyurethane-polycarbonate oligomer; this oligomer is subsequently treated with a diol and acrylic or methacrylic acid. Thus, a mixture of HO(CH₂)₆OH 94.6, diethylene glycol (I) 42.4, di-Me carbonate 90, and a 30% solution of MeONa in MeOH 216 g was stirred at 130° under 250 mm pressure for 2 h to give 155 g oligocarbonate containing 10.1% free OH group. The oligomer was treated with 34 g 1,3-bis(aminomethyl)cyclohexane at 120° for 7 h to give a polyurethane-polycarbonate (II) containing 10.9% free OH groups. A mixture of 100 mg phenothiazine, 200 mL C₆H₆, 30 g I, 70 g II, 76 g acrylic acid, and 1.5 g p-toluenesulfonic acid was heated under reflux for 12 h and worked up to give 140 g (91%) end product (III) [88804-04-0] having 0.3% free OH group, acid number 1.5, and Brookfield viscosity 320 cP (25°). III was UV irradiated in the presence of 3% benzylidemethyl ketal to give a crosslinked film having thickness 45 μ , Koenig hardness 62, flexibility at impact 60%, adhesion without tape 100%, adhesion with tape 80%, and 97% gel.

IT 88804-04-0P

(crosslinkable, manufacture of)

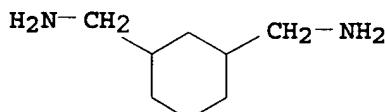
RN 88804-04-0 HCPLUS

CN 2-Propenoic acid, polymer with 1,3-cyclohexanedimethanamine, dimethyl carbonate, 1,6-hexanediol and 2,2'-oxybis[ethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 2579-20-6

CMF C8 H18 N2



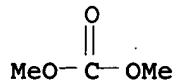
CM 2

CRN 629-11-8

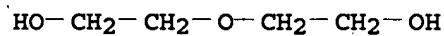
CMF C6 H14 O2

HO-(CH₂)₆-OH

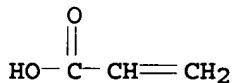
CM 3

CRN 616-38-6
CMF C3 H6 O3

CM 4

CRN 111-46-6
CMF C4 H10 O3

CM 5

CRN 79-10-7
CMF C3 H4 O2

IC C08G063-62; C08G018-44; C08G018-67; C08G071-04
CC 37-6 (Plastics Manufacture and Processing)
IT 88788-04-9P 88788-05-0P 88804-04-0P 88804-06-2P
88804-07-3P 88804-08-4P
(crosslinkable, manufacture of)